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ABSTRACT

A state of the art report on the development of native and second language reading skills in nonnative English speakers begins with a review of the reading process and the relationship of language to the reading process. The second chapter reviews various levels of language and relates them to reading and learning to read a first and second language. Two questions are addressed: (1) to what extent do language proficiency or language differences affect reading and learning to read a second language? and (2) what principles and methods are useful in facilitating the nonnative speaker's acquisition of English literacy? First and second language reading research is examined and compared, and teaching strategies and techniques are reviewed. Finally, some related issues in applied linguistics and second language literacy are discussed, including (1) the relationship of orthographies, bilingualism, and reading; (2) initial literacy in the native vs. the second language; (3) similarities and differences in learning to read in different languages; and (4) needs in teacher education programs concering language differences and reading. Suggestions for further reading, a list of organizational resources, and a bibliography are included. (MSE)

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READING DEVELOPMENT OF NONNATIVE SPEAKERS OF ENGLISH: RESEARCH AND INSTRUCTION

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by John G. Barnitz

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[CHAPTER 1: INTRODUCTION]

As an introduction to understanding the field of reading, you are invited to recall the last time you and your friends assembled a large jigsaw puzzle, especially the variety that involves thousands of pieces. To make the activity more interesting, imagine further that some of the pieces were missing as well as the picture on the box. Also, pretend that you were joined in the activity by friends and colleagues in a variety of academic fields, such as education, psychology, and theoretical and applied linguistics, and each person within each field and subfield has many of the pieces. Such is the case in piecing together an understanding of first and second language reading acquisition. The purpose of this monograph is to put together part of the jigsaw puzzle on the topic of reading English as a second language. Much of the research on language, language differences, and reading development is scattered across several disciplines.

This synthesis will be useful in crystallizing the state of the art on reading development of nonnative speakers. Intended for an audience of educators and applied linguists, this discussion is written from the point of view of an applied linguist who is professionally involved in training teachers to respect and understand linguistic diversity and the role of language in reading and learning to read. As reading is a similar process across language (K. Goodman & Y. Goodman, 1978; Hudelson, 1981), many of the teaching strategies outlined will be useful in both first and second language literacy teaching.

OVERVIEW

This monograph consists of three major chapters. First is a brief review of the reading process and the relationship of language to the reading process. That reading is a complex psycholinguistic process involving the reader, text, and context will be assumed.

The second chapter reviews various levels of language and relates them to reading and learning to read a first and second language. To what extent do language proficiency or language differences affect reading and learning to read a second language? What principles and methods are useful in facilitating the nonnative speaker's acquisition of literacy in English, the second language? In many cases, second language reading research will be contrasted with first language reading research to be interpreted for a teacher audience. Many teaching strategies and techniques will be reviewed. However, as nonnative speakers do not all share the same characteristics, instructors need to be cautious in adapting all methods of teaching to the particular background of the students.

Chapter 3 presents a broad overview of some issues in applied linguistics and second language literacy. As many of these issues are complex enough to be discussed in separate papers, it is important to include at least a brief discussion of each, because they are major aspects of the state of the art on research and development in applied linguistics and reading education. At least four questions can be discussed with recommendations for further reading. Each question can result in various degrees of discussion:

1. What is the role of orthographies in bilingualism and literacy?

2. Should initial literacy be taught in the mother tongue or the second language?

3. Is learning to read the same or different in various languages?

4. What is needed in teacher education programs regarding language differences and reading?

Following the discussion of these issues will be a summary, conclusion, and lengthy bibliography for future research and teaching.

The discussions will function as a useful guide to understanding the state of the art on linguistic differences and teaching English reading to second language learners. Readers are encouraged to read additional resources for more in-depth discussions.

READING AS A PSYCHOLINGUISTIC PROCESS

In order to understand reading of English as a second language, it is important to review first language (L1) reading as a psycholinguistic process. In the last few decades, there has been a steadily growing interest among researchers on the relationship of language and reading. This interest has paralleled at least two scholarly movements: (a) the evolution of the fields of psycholinguistics and sociolinguistics; and (b) the movement in linguistics away from decontextualized analyses of syntax and phonology to more recent developments in the role of language as a semantic and pragmatic tool. These scholarly movements are rapidly influencing educational research in reading, but are more slowly influencing classroom practices. Nevertheless, linguists and educators are "rediscovering language in education" (Shuy, 1982b).

Reading is a complex communication process in which the mind of the reader interacts with the text in a particular setting or context. During the reading process, readers construct a meaningful representation of text through an interaction of their conceptual and linguistic knowledge with the cues that are in the text. According to K. Goodman

(1976), reading is a "psycholinguistic guessing game":

> Reading is a selective process. It involves partial use of available minimal language cues selected from perceptual input on the basis of the reader's expectation. As this partial information is processed, tentative decisions are made to be confirmed, rejected, or refined as reading progresses. (p. 260)

The reader uses minimal language cues within major components of language. These cues (graphophonic, syntactic, and semantic cues) assist readers in sampling, confirming, correcting, and rejecting the predictions they make about the message.

Other researchers also view reading as a psycholinguistic process. Smith (1973) states that reading involves a "trade-off between visual and nonvisual information .... The more that is already known 'behind the eyeball,' the less visual information is required to identify a letter, a word, or meaning from the text" (p. 7). In other words, if a reader concentrates more on the visual structure of the words in printed text, less meaning will be processed. I. Taylor and M.M. Taylor (1983) present reading in terms of a "bilateral cooperative model" (p. 233). According to this view, reading consists of two "tracks" of interacting processes. The left track involves functional relationships, sequentially ordered material, phonetic coding, syntax, and other linguistic functions. The right track involves global functions, such as patterns, seeking out similarities between input patterns and previously seen patterns, evoking associations, and relating the meanings of words and phrases with real-world conditions. The two tracks "cooperate" in constructing meaning from text. The right track makes predictions; the left track corrects predictions and links the results into phrases, clauses, sentences, and larger text.

According to the research reported in Spiro, Bruce, and Brewer (1980), there are at least three

essential elements of an adequate model of reading. First, reading is *multileveled* in that native readers use various levels of language simultaneously to access meaning (see Shuy, 1977). Readers use their knowledge of the world and their pragmatic, discourse, syntactic, morphological, and phonological knowledge in constructing and reconstructing meaning. Secondly, reading is *interactive* in that the reader's comprehension is "driven" by the knowledge structures or "schemata" of the reader and the specific content and linguistic structures in the text (see Rumelhart, 1980). All the levels of background knowledge (social, linguistic, conceptual, etc.) interact simultaneously as readers construct a meaning for the text. Thirdly, reading involves the *generation of hypotheses* as readers make predictions about the meaning of a text. These predictions will be confirmed or rejected as reading proceeds (K. Goodman, 1976). Moreover, reading can be viewed as a transactional process (Rosenblatt, 1978; Woodward, Harste, & Burke, 1984) in which both the text and the reader are changed in the process; the reader acquires new knowledge while reconstructing the text. Reading involves a relationship between author and reader, a pragmatic contract, which facilitates communication (Tierney & LaZansky, 1980). As literacy events occur in contexts of situation, reading and writing are a sociopsycholinguistic process (Harte et al., 1984).

These views have challenged traditional views that still influence many teachers' instruction. Some of these misconceptions include:

- Steps in learning to read involve first the accurate pronunciation of individual letters, followed by the identification of words, then sentences, then paragraphs,....

- Learning to read precedes learning to write.

- Reading involves learning literal comprehension before learning inferential comprehension.

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• Reading is a set of subskills to be mastered one by one in a sequential order.

• Meaning is in the text. Therefore, readers should unlock the meaning in the text.

• One must be totally proficient in a second language before learning to read it.

Psycholinguistic research on reading instead implies that reading instruction should provide opportunities for students to discover the process of the total orchestration of language and conceptual skills with an emphasis not only on the meaning intended by the author and reader, but also on the *strategies* for constructing meaning for a text (see Y. Goodman & Burke, 1980). Students need to become less text-driven and more strategy-oriented as they learn to sample, predict, confirm, and reject hypotheses they make while reading. These strategies are claimed to be universal to the reading process, independent of the particular language of the reader and the text (see K. Goodman & Y. Goodman, 1978; Hudelson, 1981).

Before proceeding to the major section of this monograph, which deals with the role of language differences in learning to read, it is important to understand how language, in general, relates to the process of reading and learning to read.

One of the best illustrations of the role of language "accesses" to reading is presented by Shuy (1977) (see Fig. 1.1). This diagram, though not intended as a description based on research, illustrates the role of various levels of language at the onset of learning to read and at the level of the fluent reader. For the young child learning to read, there is a stronger tendency to be concerned with letter-sound correspondences, syllables, morphemes, and words than with larger units. Fluent readers depend on higher-level cues involving the linguistic and pragmatic context. Ideally, a fluent reader uses all these language systems in order to construct meaning for a text; and ideally, the child learning to read should learn basic lower-level

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skills in the *context* of the total reading-language process and the context of the situation. In producing written language, young children decide what is the right text for the right context (Harste et al., 1984).

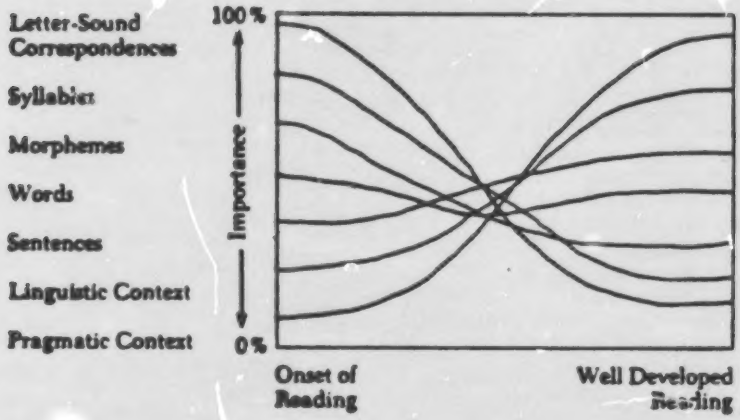

Figure 1.1. A schematic diagram of the role of language accesses in beginning reading and well-developed reading.

Note. From *Linguistic Theory: What Can It Say About Reading* (p. viii), edited by R. Shuy, 1977, Newark, DE: International Reading Association. Copyright © 1977 by the International Reading Association. Reprinted with permission of the author and the International Reading Association.

For students learning to read English as a second language, the lower-level structural aspects of the text will probably occupy their attention as they struggle with the language, thus preventing them from accessing much information from the more meaning-driven accesses to reading. Therefore, ESL reading teachers need to facilitate students' acquisition of all the language clues related to reading a second language. However, this advice does not imply that ESL readers must be totally

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fluent in English *before* learning to read it. A growing body of evidence illustrates that language differences, although they influence reading, do not necessarily interfere with reading (Flores, 1982). Nonnative speakers of English can learn to read English while they are learning the language; nonnative speakers can also learn the language as they learn to read it. In short, language and reading instruction can support each other (K. Goodman, Y. Goodman, & Flores, 1979; Hudelson, 1984; Robson, 1981).

Before addressing the specific roles of language differences in learning to read English, one assumption must be established. Reading and language teachers must remember that reading, like listening, speaking, and writing, are part of the *communicative competence* of language users. A writer uses language for specific purposes; and a reader uses language for specific purposes. Thus, literacy development must take place in a pragmatic, communicative competence framework; as noted by Shuy (1982a, p. 810) in Figure 1.2.

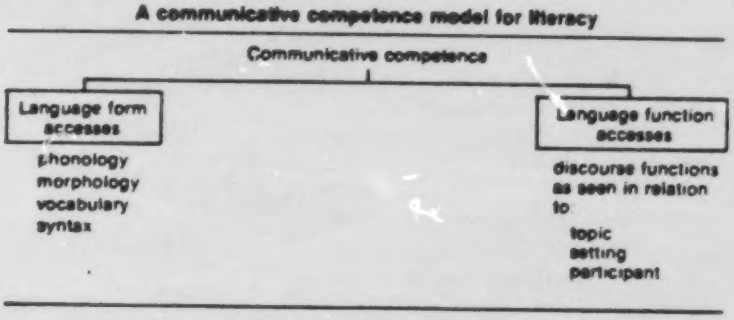

Figure 1.2. A communicative competence model for literacy.

Note. From "What Should the Language Strand in a Reading Program Contain" by R. Shuy, 1982a, *The Reading Teacher*, *35*, p. 810. Copyright © 1982 by the International Reading Association. Reprinted with permission of the author and the International Reading Association.

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This diagram illustrates that functional literacy development is not limited to language forms, but must also include the acquisition of language functions. In other words, basic to literacy and language communication is the ability to use language to accomplish actual goals (Harste et al., 1984).

The field of pragmatics, which analyzes non-literal aspects of communication (e.g., inference, speech acts, indirect speech acts, conversational implicature), describes how language is used to accomplish tasks in the real world (Morgan & Green, 1980). For example, will second language learners of reading understand the intended meaning of the sentence

I have a cold today

as a refusal to an invitation to attend a swimming party? Or will second language readers understand the sentence spoken at the dinner table,

The corn needs butter

as a request for butter? Thus, there is a potential interaction of context and sociocultural meaning in the comprehension of oral and written language. (For more information on pragmatics and reading, see Morgan & Green, 1980; and Griffin, 1977).

Figures 1.1 and 1.2 emphasize how reading is related to proficiency in a second language. Reading a second language can be facilitated or "short-circuited" (Clarke, 1979) by the extent of language proficiency. Yet, reading a second language can facilitate growth in second language proficiency. Similarly, as reading and language are intimately related, much language and literacy proficiency in one language can transfer to proficiency in another language (see Cummins, 1981, for a discussion of the "common underlying proficiency" model of language learning). Given the functional interactive nature of the reading process, language differences do not necessarily interfere with learning to read a second language (Flores, 1982), especially as there are many accesses to meaning within language. Yet, spe-

cific children or adult learners will benefit from instruction on specific language accesses to reading. In the following chapter, various levels of language will be reviewed in terms of their role in reading and learning to read a first and second language. It is in this area that many pieces of the jigsaw puzzle are available. Yet, much research is needed on language function accesses to literacy.

Much research and experience have documented that linguistically different children and adults can learn to read English while they are learning the language. Research by K. Goodman and Y. Goodman (1978) indicated that, although no one can speak an unknown language proficiently, second language and second dialect learners demonstrated their increasing abilities to use the graphophonic, syntactic, and semantic systems of reading, as well as the universal reading strategies of text sampling, predicting, confirming, and rejecting. Students learn language and learn to read a language by using and reading it. Furthermore, in refuting deficit views of language interference, Flores (1982) implied that differences between Spanish and English do not *cause* reading failure. There are differences between a first and second language that do not hinder the construction of a meaningful interpretation of a second language text. In fact, some recent research findings reviewed by Hudelson (1984) conclude that "ESL learners are able to read English before they have complete oral control of the language" (p. 224) and that "even children who speak no or very little English are reading some of the print in their environment and are using that reading to increase their English" (p. 222). Thus, there is a close interrelationship between reading and language; the two support each other.

Yet, to what extent does language proficiency place any limit on reading performance in a second language? While reading may be considered universal (Hudelson, 1981; K. Goodman & Y. Goodman, 1978), and

while there may be similarities in the way that first and second language learners construct meaning in reading (Perkins, 1983) and in writing (Harste et al., 1984), research suggests that there may be a limit placed on second language reading ability, a limit related to language proficiency. According to Clarke (1979), limited language ability "short-circuits" the psycholinguistic processes in reading, thus placing a ceiling on the meaning constructed by the reader (Perkins, 1983), unless the reader's prior knowledge overrides problems with language proficiency (Hudson, 1982). Likewise, Cziko (1980) found that, although native French-speaking and French-as-a-second-language students in junior high school used both contextual and graphic clues in reading French, the students who were less competent in French tended to rely more heavily on lower-level textual clues than higher-level contextual clues. Thus, while reading of various languages and reading of English as a second language may consist of similar universal strategies (K. Goodman & Y. Goodman, 1978; Hudelson, 1981), various levels of the language systems may influence the reading of a second language.

It is important to realize that many language levels (phonological, syntactic, semantic, etc.) operate simultaneously in comprehension; thus, if one area is weak in the second language reader's system, other areas may compensate. For example, a reader's knowledge of content can override a potential problem with a given phoneme-grapheme correspondence or syntactic pattern. Thus, various systems of language and cognition *interact* in the reading process (Rumelhart, 1980; I. Taylor & M.M. Taylor, 1983).

Some additional principles are also important to remember. First, speaking, listening, writing, and reading development are inseparable in the communication process and in the comprehension process. For instance, reading and writing a second language support each other in first and second language learning (see Hudelson, 1984; and Edelsky, 1982). Reading and writing involve related processes (see Harste et al., 1984; Staton, 1981; and Tierney &

Pearson, 1983). Secondly, reading and writing exposure and instruction need not be delayed until the student has total proficiency in the second language, for literacy exposure can enhance language development (Chomsky, 1972; Hudelson, 1984). Thirdly, teaching any piece of the language/reading process cannot be isolated from teaching the total language/reading process. Reading, as part of communicative competence, must be viewed and taught holistically, rather than as an isolated sequence of skills (see Shuy, 1981a).

This chapter outlines several levels of language and cognition that are related to reading: prior knowledge, lexicon, discourse, syntax, morphology, phonology, and orthography. The discussion is presented from theoretical and practical perspectives. Included are research studies and teaching techniques for second language reading development, many of which are borrowed from first language reading, especially since many first and second language reading strategies are universal. While most methods are adaptable to specific populations (e.g., adults or children, literate in first language or illiterate in first language), some mention will be made of the most appropriate populations for certain techniques. However, many techniques are adaptable, though with caution, to a variety of situations.

Although each component of language is discussed separately in this section, instruction in any language component must be placed in the context of natural texts and the total reading process. No instructional sequence is implied in this monograph, as many language factors interact simultaneously in the reading process. To be reviewed first is the reading process involving readers' background knowledge, with some approaches that develop the total reading process.

BACKGROUND KNOWLEDGE AND READING COMPREHENSION

In the reading process, participants bring their knowledge of the world and their knowledge of language to the text as they construct a meaningful representation for the text (Spiro, Bruce, & Brewer, 1980). A major factor in reading comprehension, which has been documented in recent years, is the backround knowledge or "schemata" of the reader (R.C. Anderson, 1977; Rumelhart, 1980). Prior knowledge can influence an interpretation of a text by providing an overall context for the information being encoded, comprehended, and recalled. Background knowledge consists of several components including conceptual knowledge, social knowledge, and story knowledge (Adams & Bruce, 1982). The less familiar readers are with the concepts or content of the text, the more they will struggle to construct a meaning. Thus, specific content area material can be especially difficult for ESL readers, if they have to struggle with the content in addition to the language. If the readers are ignorant of social relationships and how language functions in various social settings, comprehension can be affected. Likewise, readers who are unfamiliar with conventions in the world of stories and how they are signaled will stumble in their reading. The more world knowledge readers gain, the better access they will have to information in text, for the comprehensibility of the text is related to "the goodness of the match between the knowledge the author has presumed of the reader and that actually possessed by the reader" (Adams & Bruce, 1982, p. 3).

Much research in schema theory documents the importance of readers' background in reading comprehension. A discussion of several studies will help clarify the role of cross-cultural schemata in reading comprehension of nonnative speakers.

As reading is a constructive process, the reader brings to the text a conceptual framework for constructing information (Spiro, 1980). Research by R.C. Anderson, Reynolds, Schallert, and Goetz (1976)

found that ambiguous passages were interpreted differently by two groups of first-language university students--physical education majors and music education majors. One passage could be interpreted as either the rehearsal of a chamber orchestra or an evening of playing cards. For example, the passage contained references to: Karen's recorder filling the room with music; Mike noticing Pat's hand and the many diamonds; Mike's requesting to "hear the score," and so on. Another passage was interpretable as being about either a prison break or a wrestling match.

Similarly, research by Pichert and R.C. Anderson (1976), R.C. Anderson and Pichert (1977), R.C. Anderson, Pichert, and Shirey (1979), and Goetz, Reynolds, Schallert, and Radin (1982) documents that a reader's prior perspective has an effect on the information recalled from a text. These researchers used passages about two boys playing hookey at one of the boy's homes, although much of the story focused on the features of the house or valuable possessions inside the house. Participants in the studies were asked to become "burglars" or "home buyers," before reading the story. These researchers found that the burglars tended to recall idea units about the possessions in the house, while the home buyers tended to recall information relevant to their own perspective. Thus, teachers need to become aware of the crucial role that background knowledge plays in reading.

In recent years, many studies have illustrated how prior knowledge, based on cross-cultural experiences, has an effect on reading. These studies are most relevant to teachers of students in ESL or bilingual communities. To illustrate how cultural differences affect reading, consider the following passage and answer the inferential questions based on it.[1]

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[1] From "Creativity as a Mediating Variable in Inferential Reading Comprehension" by B.V. Andersson and J.P. Gipe, 1983, *Reading Psychology, 4*, p. 316. Copyright © 1983 by Hemisphere Publishing.

The kitchen was buzzing with activity as a large and fancy dinner was being prepared. Flowers were everywhere. This day was more important than George's birthday. Each year his family held an open house in his honor. Guests brought wine and baked goodies. George was greeted with hugs and kisses. This was a day for celebrating. George was so happy. He could not miss the chance to join in and show his skill. He rushed to the front of the line, pulled out his handkerchief and placed a glass on his head. Everyone was watching George as he showed his talents and turned to the beat. The same words were repeated everywhere in the house. The guests admired and clapped as the man of the day smiled with happiness.

QUESTIONS:

1. What day is described?

   _____

2. Which words are repeated over and over?

   _____

3. What kind of a line is George joining?

   _____

4. Why is George pulling out his handkerchief?

   _____

5. Why is George putting a glass on his head?

   _____

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If you are familiar with Greek name day festivities, this passage should be fairly easy to comprehend both literally and inferentially. However, if the content of the passage is outside the realm of your actual or vicarious experiences, then the passage would be more difficult to comprehend. Andersson (1981) presented 24 passages like this one to sixth-grade children from two populations: a parochial school in the New Orleans metropolitan area and a Greek Orthodox school in New York City. Of the 24 passages, six were based on New Orleans culture, six on Greek culture, six on everyday experiences familiar to everyone, and six not familiar to anyone. Andersson found that sixth-grade students performed better on the passages that matched their own cultural background (see also Andersson & Gipe, 1983, for a discussion of this study).

Other studies also confirm the influence of cross-cultural schemata. Steffensen, Joag-Dev and R.C. Anderson (1979) presented separate letters about American and Indian weddings to university students whose native culture was either American or Indian. Since wedding customs differ in America and India, the readers recalled information that was most relevant to their own culture. In addition, when recalling information about a culturally unfamiliar text, readers naturally distorted information and inserted ideas from their own culture. Readers were also found to elaborate the passages related to their own cultural experiences, and to read them faster.

A similar study by Reynolds, Taylor, Steffensen, Shirey, and R.C. Anderson (1981) documented the role of cross-cultural schemata in the reading of eighth-grade students from two populations: urban, working-class black students and white students from an agricultural community. Both groups read a letter describing an event in the cafeteria, which included verbal insults such as "you so ugly that when the doctor delivered you, he slapped you in the face." While the black students interpreted the episode to include verbal insults commonly found in the black community, the white agrarian students

inferred that there was physical aggression. Thus, two cultural groups tended to interpret the same passage differently. (For more information on first-language cross-cultural schemata, see Andersson & Bernitz, 1984; Joag-Dev & Steffensen, 1980; Lipson, 1983; Steffensen & Colker, 1982.)

Several ESL studies have examined the role of schemata in the reading comprehension of nonnative readers. P. Johnson (1982) found that university students representing 23 nationalities in advanced-level ESL reading classes who read a story about an American custom, Halloween, recalled fewer propositions from unfamiliar portions of text than from familiar portions of text. P. Johnson also found that exposure to target word meanings prior to reading the story had no significant effect. Rather, prior cultural experiences were more important. In a related experiment, P. Johnson (1981) found that the cultural origin of a text (e.g., Iranian or American folklore) made more of a difference in student reading comprehension than the text's semantic and syntactic complexity. The results of these studies are consistent with the view that reading is a constructive process.

Carrell (1983b) examined specific effects on reading comprehension of three different components of background knowledge: prior knowledge of the content of the text (familiar versus novel); prior knowledge that the text is about a given content area (context versus no context); and the degree to which the vocabulary reveals the content area (transparent versus opaque). Carrell found that advanced and high-intermediate ESL readers appear *not* to use contextual and schematic clues well. Thus, they will naturally have difficulty in making predictions based on context. It was also found that advanced ESL students were aided by the novelty of a text. (For related studies, see Carrell & Wallace, 1983; and Carrell, 1981).

If prior knowledge is an important area of reading, and if ESL readers do not always have prior knowledge in their English discourse processing, then can background knowledge be induced? According to Hudson (1982), induced schemata can facilitate

comprehension for university students at lower levels of ESL proficiency, even more than at higher levels of proficiency. Therefore, Hudson argued that induced schemata can override language proficiency as a major factor in comprehension. If so, then how can teachers manipulate the background knowledge of native and nonnative readers to facilitate the comprehension of text material?

PRIOR KNOWLEDGE, LANGUAGE, AND READING INSTRUCTION

This section presents a variety of methods for developing the total reading-language process. These methods require consideration of the students' background knowledge and emphasize meaningful comprehension of written language. Additional methods for developing very specific aspects of language related to reading will be discussed in subsequent sections. As it is important not to reduce reading to a set of isolated skills, several methods are recommended for developing the total reading process. Reading for meaning is a goal. While there are many approaches and methods for facilitating reading comprehension (see Y. Goodman & Burke, 1980; Tierney, Readence, & Dishner, 1980; Pearson & D.D. Johnson, 1978; McNeil, 1984), a few will be discussed briefly: The Language Experience Approach (LEA); Extending Concepts Through Language Activities (ECOLA); Directed Reading-Thinking Activity (DR-TA), the Experience Text Relationship (ETR) Method, and the PreReading Plan (PReP), as well as some traditional ESL approaches. The teacher may need to adapt these methods to particular age levels and language proficiency levels.

Language Experience Approach (LEA)

A most useful approach for both native speakers and linguistically different children and adults,

the LEA is best suited for beginning readers and remedial readers, rather than university ESL students. This approach begins with the student's language proficiency and background knowledge. Based on a common experience, the student(s) dictate a story to the teacher, who records the story as it evolves. The "text" that is produced matches the language and content knowledge of the students. Therefore, the "text" becomes a useful beginning point for teaching basic reading and language skills. Through active questioning, the teacher can help the students recognize words, sentence patterns, and vocabulary items. In addition, the teacher can encourage the students to expand on sentence structure, descriptive words, or more elaborate story structure.

For nonnative speakers of English, the LEA is invaluable to the reading teacher as the students discover the relationship of their experiences to English; it unifies their experiences in reading, writing, speaking, and listening. (For further information on the approach, see Allen, 1974; Hall, 1981; Hudelson, 1984; and Stauffer, 1980.)

Extending Concepts Through Language Activities (ECOLA)

An extension of the LEA, the ECOLA approach is useful in facilitating language and reading comprehension of content material for first language readers (Smith-Burke, 1982). The approach comprises five major steps. Step 1 involves setting a communication purpose for reading. In this step the readers are led to discover why they should read a given selection. In Step 2, the students read silently for a given purpose and a given criterion task. In both of these steps, the teacher asks questions that facilitate *purposeful, functional* reading. The crucial third step is the crystallization of comprehension through writing. Because writing and reading are strongly related (Tierney & Pearson, 1983), having students write their thoughts on the text, based on the purpose and criterion task, encourages them to take risks and construct an

interpretation. In Step 4, the students and teacher share their interpretations. Finally, the students, either individually or in small groups, write a second interpretation and compare it with their earlier interpretation. In this way, students discover the constructive and changing nature of the comprehension process. The ECOLA approach is adaptable to a variety of populations; however, basic literacy in the target language is a prerequisite, unless the students discuss and write responses in their native language. (See Smith-Burke, 1982, for more discussion.)

With nonnative speakers, the teacher will have to be sure that the students have the necessary language skills to master the reading selection. Thus, the teacher can embed language instruction in the context of this and other approaches.

Directed Reading-Thinking Activity (DR-TA)

The DR-TA is a group activity that can be conducted with a variety of textual material. Its main purpose is to develop reading skill by guiding students to *think* about what they are reading. According to Stauffer (1980), the instructional procedures enhance students' and teachers' active involvement with the text: Students *predict* (set purposes, make hypotheses), *read* (process ideas), and *prove* (confirm their purposes and hypotheses). Teachers lead students by asking questions that foster active thoughts (What do you think?), agitate thought (Why do you think so?), and require evidence (Prove it!). Thus, the students are encouraged to sample, predict, and confirm the information they construct for a text. A drawback of this approach is that it requires that students already have mastery of sufficient decoding skills and knowledge of the second language, although they may use their first language in discussions.

Experience-Text-Relationship (ETR) Method

An approach that has been found especially useful with minority students is the ETR Method (Au, 1979). Very useful for developing prior knowledge and dealing with cross-cultural schemata, the method has three simple steps: experience, text, and relationship. In the *experience* step, the teacher leads the students to share their own experiences or prior knowledge related in any way to the story being read. This is important because the students are using expressive language related to the story and because the discussion provides context and motivation for reading the story. In the *text* step, the teacher directs the students to read segments of the text, being guided by specific comprehension questions. In this step, the teacher may also need to correct any misunderstandings the students have. In the relationship step, the teacher leads students to relate the content in the story to their prior knowledge or outside experience. Hence, the students relate what they read to what they know. Again, this approach facilitates the role of prior knowledge in the reading process. It can be used with children and adults as a basic approach for teaching reading comprehension to minority students.

Pre-Reading Plan (PReP)

The PreP approach is another first language reading paradigm that provides context for reading content as a means of tapping the prior knowledge of the reader (Langer, 1982). Its three phases are (a) initial association with the concept; (b) reflections on initial associations; and (c) reformulation of knowledge. Thus, students are required to construct much meaning before reading the text, thus bringing more schemata to the reading process. This approach can be used for university-level ESL reading courses as well as for children already literate in English.

Some Traditional ESL Reading Approaches

Before proceeding to a discussion of language differences and reading development, it would be useful to mention some additional approaches commonly discussed in the ESL literature.

Audio-lingual method. For decades the audio-lingual method has dominated the teaching of ESL. Heavily influenced by structural linguistics, this approach places primary emphasis on oral communication (speaking and listening), with secondary emphasis on written communication (writing and reading). But good audio-lingual programs must recognize reading as more than a reinforcement of oral language instruction, because reading is more complex; it is more than a mere extension of oral language, or talk written down (Saville-Troike, 1979). As discussed earlier, reading, like listening, is a complex psycholinguistic process in which readers use their prior knowledge of the world and of language to uncover and construct meaning for a text. Furthermore, recent research suggests that total oral proficiency is not required before beginning reading (K. Goodman & Y. Goodman, 1978), and that reading can be used to increase English proficiency (Hudelson, 1984). Thus, a mere pattern practice approach to oral and written forms, especially out of context of the reading process, may limit the potential for developing students' reading comprehension. While this approach can be useful for reinforcing specific language patterns, it does not teach meaningful functions of language and literacy.

Intensive reading and extensive reading. It is common practice in ESL reading classes to make a distinction between intensive and extensive reading activities (Gaskill, 1979). Intensive reading refers to the use of short reading selections that are examined in depth during a given class period. Short selections are used for the direct teaching of specific reading skills (e.g., sequencing, getting

the main idea, cause-and-effect) or language skills (e.g., syntax, vocabulary, phonology).

Extensive reading, on the other hand, involves longer selections, which are usually read by the students on their own time after having been prepared by the teacher for reading the selection. It is crucial for the teacher to provide the appropriate context for comprehension in the initial stages of comprehension instruction. While university students were found to improve their reading using intensive and extensive reading or a combination, Laufer-Dvorkin (1981) found that the intensive method produced more positive results. However, long-range effects of this and other teaching strategies need to be researched.

While many individual techniques for developing specific aspects of reading will be discussed, the reading teacher will find that reading instruction involves a combination of techniques. Nevertheless, students must read for specific functional purposes.

While all of the paradigms and approaches so far discussed are useful for students of a variety of language proficiencies and reading abilities, teachers should be aware that other "common-sense" ideas are useful. Sometimes merely providing a context through a film, picture, or other experiential activity will facilitate the comprehension of material. Nonetheless, both native and nonnative speakers alike would benefit from many of the techniques that facilitate language and conceptual growth in reading. For further reading on broad aspects of ESL reading curriculum and instruction, see Carrell and Eisterhold (1983), Carrell (1983a), Hudelson (1984), Crawford (1982), and Mackay, Barkman, and Jordan (1979), as well as the many other sources listed in this volume's reference list (pp. 87-113).

LEXICAL DIFFERENCES AND READING COMPREHENSION

The purpose of this section is to explain how meaning is reflected in the lexicon of various languages and how these differences affect learning English vocabulary. Before examining some cross-cultural aspects of vocabulary, it is useful to understand the interrelationship of schemata, context, and vocabulary knowledge (R.C. Anderson & Shifrin, 1980; R.C. Anderson & Freebody, 1979). Unlike traditional views of vocabulary, current thinking converges on the fact that a given word does not always have a fixed meaning, rather a variety of meanings that interact with the context and background knowledge of the reader, as in the following sentences (R.C. Anderson & Shifrin, 1980):

> The punter kicked the ball.
> The baby kicked the ball.
> The golfer kicked the ball. (p. 331)

A reader will construct different images for the words *ball* and *kick*, because of world knowledge and the presence of the subject noun phrase influencing the interpretation of these words. What kind of *ball* do you visualize in each sentence? How is kicking the ball different in each of the sentences? Why? If readers do not have the background experiences associated with types of kicking and things that can be kicked, then the comprehension of the lexical items and the sentences as a whole will be impaired. Thus, knowledge of individual word meanings is strongly associated with conceptual knowledge (R.C. Anderson & Freebody, 1979).

Regarding cross-cultural vocabulary, it can be assumed that the cross-cultural lexicon, like the cross-cultural schemata discussed in the last section, can influence reading comprehension. Several examples of how meaning is structured differently in the lexicon of several languages will illustrate this. Slobin (1971) presents Gleason's (1961) comparison of the color spectrum as reflected in the

lexicon of English, Shona (spoken in Rhodesia), and Bassa (spoken in Liberia):

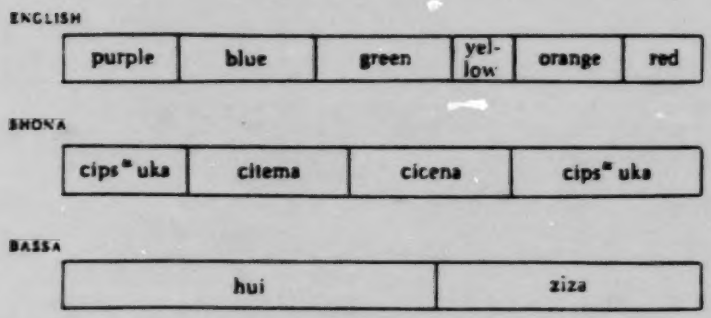

Figure 2.1. A visual comparison of the color-spectrum words in three different languages.

Note. From *An Introduction to Descriptive Linguistics* (p. 4) by H.A. Gleason, 1961, New York: Holt, Rinehart and Winston. Copyright © 1955, 1961 by Holt, Rinehart and Winston. Reprinted by permission of Holt, Rinehart and Winston, CBS College Publishing.

Speakers of the three languages classify the basic colors in different ways. The Shona word *cips^{w}uka* corresponds to English *purple*, *orange*, and *red*; *citema* corresponds roughly to *blue* and *blue-green*; *cicena* corresponds roughly to *green* and *yellow*. Bassa has two words, *hui* and *ziza*. *Hui* is comparable to *purple*, *blue*, and *green*; *ziza*, to *yellow*, *orange*, and *red*. Thus, Shona and Bassa speakers will need to resegment the semantic domain of color in learning the English lexicon, although they can perceive the variations in the color spectrum. Similarly, a French speaker will need to distinguish between the meanings of English *cut* and *carve*, which are represented in French by *couper* (Macnamara, 1972). Cutting and carving involve different manners of action and different objects. One cannot *carve* hair, or fingers, or even a steak on a

plate; nor can one *cut* a turkey, unless it is a toy made of wood. The phenomenon occurs in both directions. English speakers, who have the word *love* in their lexicon, will need to differentiate the different kinds of *love* when learning Greek: *eros*, *philia*, and *agape* (*eros* = romantic, physical, sexual love; *philia* = friendship, companionship, brotherly/sisterly love; *agape* = long-lasting, eternal, spiritual love).

Another aspect of cross-cultural vocabulary is that words do not always have direct meaning equivalents in another language. Such is the case with the English word *dormitory*, which is different in meaning from the word *dormitorio* in Italian and Spanish (DiPietro, 1976). These differences are illustrated in Figure 2.2.

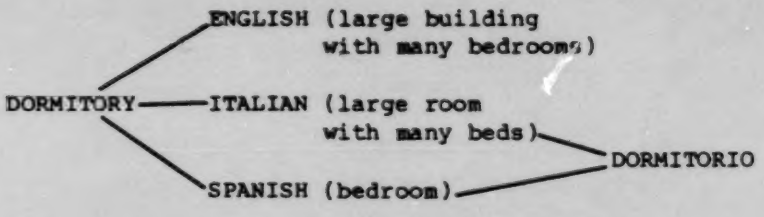

Figure 2.2. The words *dormitory* and *dormitorio* have different meanings in English, Italian, and Spanish.

This phenomenon may influence comprehension of a second language if a reader and teacher are not aware of them.

The interrelationship of lexical knowledge, context, and cultural knowledge also is strongly useful in comprehending figurative language (Ortony, 1980). For example, the sentence:

The Indians are on the warpath

can be understood literally in the context of describing a historical event on the Great Plains; but this sentence can also be interpreted figuratively, when heard for example in the context of a

roomful of undisciplined children with a new baby-sitter or with a substitute teacher. Thus, context facilitates the comprehension of metaphors (Ortony, 1980). This point is important to understanding the second language reader's problems with culturally specific expressions in text. Saville-Troike (1979) provides some more interesting examples: "*To shrug something off* may puzzle a Chinese who has never seen this gesture or to *receive a nod* may confuse a Turk for whom this is usually a sign of negation" (p. 28).

Cross-cultural differences in vocabulary are certainly related to differences in cultural experiences. While the Whorf-Sapir hypothesis cannot be discussed at any length here (see Slobin, 1971; and Fishman, 1982), it is generally true that students who come from a culture different from the one represented in the content of the text may have a different vocabulary/experience inventory. For example, a Middle Eastern language such as Arabic would naturally have a greater inventory of words to describe a horse, a lion, a sword and, of course, different kinds of sand (Abdul-Karim, personal communication, March, 1983). Thus, these differences can influence the comprehension of content in a second language.

Another major aspect of cultural differences in vocabulary knowledge lies in affective meaning. Words such as *famous, ashamed, effeminate, shy,* and *sentimental* have value judgments associated with them. Thus, a speaker would say *Churchill was a famous man* but not *Hitler was a famous man* (Richards, 1980). Similarly, second language readers need to know when various synonyms can be used that differ in connotation: *He is old, You are middle-aged, I am mature* (Saville-Troike, 1979). Much research has been done on the semantic values that various cultures give to lexical items (see Osgood, Suci, & Tannenbaum, 1957; Osgood, 1976; and Osgood, May, & Miron, 1975). In developing a cross-cultural atlas of affective meaning, Osgood and his associates were able to document how many different cultures have similarities and differences in semantic values for lexical items. For example, Osgood

(1976) noted that the word *adolescent* in English and Japanese, although referring to the same period of life, evokes different cultural values associated with the concept in the two languages. Research is needed to investigate how differences in affective meaning affect vocabulary development and reading instruction in a second language.

To summarize, vocabulary does not exist in isolation, but in a dynamic relationship with the cultural experiences, background knowledge, and the context in which it occurs. Thus, reading teachers need to internalize this assumption in planning vocabulary instruction for second language learners. (For more information on aspects of vocabulary knowledge as related to second language learning, see Richards, 1980. *Note:* A brief discussion of morphological aspects of vocabulary will be included in the section on morphology, pp. 51-54.)

SEMANTICALLY BASED VOCABULARY INSTRUCTION

Vocabulary instruction in a first and second language has developed recently from a semantic perspective. Various methods of vocabulary development in a first language have been researched by Gipe (1979) to determine which methods best facilitate the learning of word meanings by English-speaking elementary school children. Gipe compared the effectiveness of four methods: the *association method*, which relates the unknown word with a familiar synonym or brief phrase definition; the *category method*, which requires the learners to add to a list of words a word fitting a general category; the *context* method, using the target words in a short paragraph of meaningful sentences; and the traditional *dictionary method*, in which the students look up the target vocabulary items in the dictionary, write the definitions and a sentence in which the new word is used. Gipe found that children in grades three and five, whether they were good or poor readers, learned new lexical meanings best

using the context method, followed by the association method, while the least effective method was the dictionary method, except for good readers in fifth grade. That the context method was found to be superior is not surprising, given the research discussed earlier. There is a natural close link between vocabulary knowledge, conceptual knowledge, and context. For it is in natural meaningful contexts that children first learn langauge. Grubaugh (1981) further found that an *experience-based vocabulary method*, which requires that students use self-selected words in personal anecdotes or stories and then share them with peers, was found also to be a strong approach for developing vocabulary for middle school English-speaking students. Grubaugh (1983) also recommends this strategy for adult education classes. To summarize, vocabulary learning can best be facilitated when words occur in context and when students *use* the word in interaction with a real audience. These methods would also be useful for ESL students, who need to gain practice in using a variety of English context clues to word meanings in reading text. ESL students, however, will also need to add isolated words to their language repertoire.

In other recent research, the "keyword method" has been found to be useful (Atkinson, 1975; Pressley, Levin, & Delaney, 1982; Levin, McCormick, Miller, Berry, & Pressley, 1982). With this method, the learner creates a "keyword" that sounds similar to an important part of the unknown word in the target language, and then links it to the foreign word's meaning through a visual or syntactic context. For example, in learning the Spanish word *carta*, a postal letter, the student thinks of the English word *cart* and visualizes a shopping cart with a letter in it (Levin et al., 1982).

Several more recent meaningful vocabulary methods are found in the reading education literature that are useful to first and second language teaching. These include Semantic Associations, Semantic Mapping, and Semantic Feature Analysis (D.D. Johnson, 1983; D.D. Johnson & Pearson, 1984). Semantic Associations is a technique in which words, ideally related to a story context or content area

lesson, are selected for students to brainstorm all the words related to them. Using D.D. Johnson's (1983) examples, the words *meat* and *chew* can be selected from a reading selection on the digestion of food. Half the class brainstorms words related to *meat* (e.g., *cook, taste, savor, bake, broil, hunt, tenderize, braise, slice*); while the other half brainstorms words related to *chew* (e.g., *gum, pencils, caramels, "the fat," bread, apples*). The teacher then leads a crucial discussion of the various words, especially those that are new to any of the class members. Words can then be classified in an organized way as concepts become related in individual students' schemata. Thus, the teacher is not only developing content knowledge, but is also systematically developing meaningful vocabulary in context of a total network or schema of words related to a story. Thus, new knowledge is related to old knowledge and new words are related to already known words (see also the word association technique of Marcus, 1977).

Semantic Mapping is another technique for developing word meanings (D.D. Johnson, 1983; D.D. Johnson & Pearson, 1984). In this method, the teacher selects a concept that is crucial to a story, such as Mardi gras. The students are again led to brainstorm all the words associated with the given word. After the related words/concepts are shared and categorized, the teacher and the students can draw a visual representation of the concept. This "map" can be a visual study aid for developing word knowledge as well as a framework for comprehending a story. A simplified example of semantic mapping for concepts related to a story about Mardi gras is presented in Figure 2.3.

This strategy can be successful if class discussion is included. The technique can develop a network of word meanings. It can be used in both the first and second language, so that the readers can see the same conceptual relationships represented in the lexicons of both languages.

The Semantic Feature Analysis relates the students' known information with new information and stresses the interrelationships of concepts and

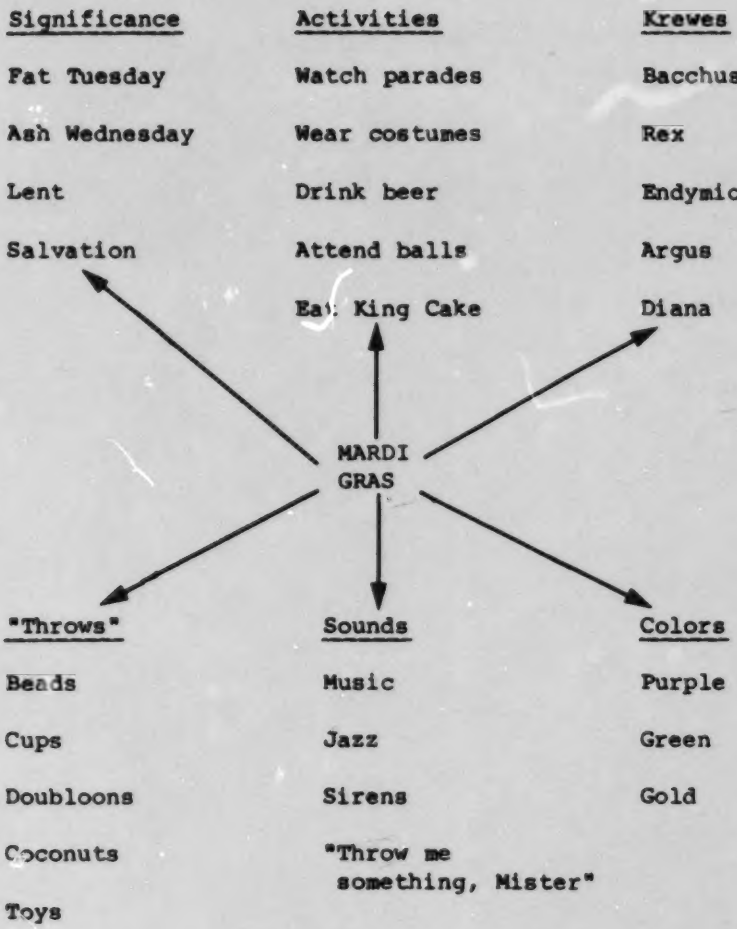

Figure 2.3. A semantic map of Mardi gras in New Orleans.

their similarities and differences. Using a binary system, the teacher leads the students to discover distinctions between closely related words. For example, different types of *tools* can be subdivided as in Figure 2.4 (D.D. Johnson, 1983).

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Topic: Tools

Features

Words	Pounds	Cuts	Grips	Wood	Cloth	Dirt	Handle
hammer	+	-	-	+	-	-	+
saw	-	+	-	+	-	-	+
scissors	-	+	-	-	+	-	+
pliers	-	-	+	+	-	-	+
hoe	-	+	-	-	-	+	+

Figure 2.4. Semantic feature analysis of tools.

Note. From *Three Sound Strategies for Vocabulary Development* (p. 6) by D.D. Johnson, No. 3 of Ginn Occasional Papers, 1983, Lexington, MA: Ginn and Company. Copyright © 1983 by Ginn and Company (Xerox Corp.). Used with permission.

Several steps are involved. A main category related to the story is chosen (e.g., tools). Some of the words within the category (hammer, saw, scissors, etc.) are listed in a column, while words representing features are listed in a row (pounds, cuts, grips, etc.). Pluses or minuses are then placed in the matrix by the teacher and students to distinguish the words. In the discussion, additional words and features can be added to expand the matrix. The most crucial steps involve the discovery and discussion of the uniqueness of each word meaning. The discussion can be one of the activities used to prepare the students to read a selection.

Semantic feature analysis can be especially useful to second language vocabulary learning in that the meanings that are not contrasted in a first language can be distinguished (e.g., *agape, philia, eros*; or *cut* versus *carve*). Further, regional concepts and vocabulary can be illustrated. For example, Grubaugh (1983) uses this method to illustrate the difference between *cajun* and *creole*. Semantic feature analysis can also be useful in

helping language learners understand that some words are more distinct than others: Try brainstorming the differences among types of thoroughfares (*road, street, avenue, boulevard, interstate, freeway, toll road, toll way, turnpike, expressway*, etc.). Or try to differentiate bodies of water (*ocean, stream, tributary, bayou, swamp, marsh, canal, sea, lake, river*, etc.). The discussion can become lively and can be more stimulating and effective than just learning words through looking up definitions in a dictionary or glossary. Thus, these semantic techniques presented by D.D. Johnson (1983) and D.D. Johnson and Pearson (1984) are useful in interrelating word knowledge with world knowledge in either a first or second language.

As vocabulary development involves learning a large set of linguistic and cultural knowledge (Richards, 1980), much more is involved in the area of vocabulary teaching. Much vocabulary learning can also be done in the context of other comprehension methods discussed earlier (LEA, DR-TA, etc.). Through the interaction of the teacher, learners, and the context of a reading selection, word meanings can be acquired naturally. For more discussion on vocabulary teaching, see D.D. Johnson and Pearson, 1984, and most ESL methods books. Vocabulary will be treated again later in the discussion of morphology.

DISCOURSE DIFFERENCES AND READING

While the previous sections examined factors within readers' minds (schemata, vocabulary knowledge), the present section examines the role of text structure and discourse differences in reading comprehension, as well as some principles and practices for facilitating the second language learner's comprehension of text. Discourse analysis has become a major part of the reading researcher's tools during the past decade, especially as the fields of linguistics and psycholinguistics have

moved away from sentence-level analyses to a more realistic unit of analysis, the entire discourse. While research exists on differences between oral and written discourse (see Tannen, 1982) and in cross-cultural oral discourse strategies (see McClure, 1977; Chafe, 1980), the present focus is on aspects of *written* discourse that affect reading comprehension. However, similarities and differences between oral and written language can influence reading (Schallert, Kleiman, & Rubin, 1977; Rubin, 1980).

It is important for reading teachers to become familiar with procedures and properties of text analysis for several reasons, according to Tierney and Mosenthal (1982, pp. 99-101):

> 1. To examine and appreciate the differential responses of readers to text features. ...
> 2. To examine and appreciate the text demands placed upon readers. ...
> 3. To examine and appreciate the relevance and plausibility of a reader's text-based inferences. ...
> 4. To afford teachers and readers a metacognitive awareness of text demands. ...
> 5. To suggest instructional and testing procedures consistent with text demands.

(See Tierney & Mosenthal, 1982, for a discussion of each of these principles and a survey of several methods of text analysis.) That text structure is related to reading comprehension is an important point to remember because "text represents a higher level of psychological structure or organization than less integrated verbal materials such as collections of sentences or lists of words" (Goetz & Armbruster, 1980, p. 202).

To what extent do cultural differences in discourse affect learning to read a second language? This area of the reading jigsaw puzzle needs to be developed in future research studies. Except for

studies on cross-cultural schemata (e.g., Steffensen, Joag-Dev & R.C. Anderson, 1979), and on communication strategies and patterns in various cultures (Chafe, 1980; Kachru, 1982; Kaplan, 1983; McClure, 1977), very little research has examined the effects of cultural variations in text structure on reading comprehension.

To illustrate briefly the nature of cross-cultural influences on written language, it is useful to examine the concept of contrastive rhetoric (Kaplan, 1966, 1976). A basic assumption of contrastive rhetoric is that the thought patterns of a given culture are interrelated with the rhetoric that is used in written discourse. Thus, a non-native-English-speaking student learning to write English prose may be influenced by the rhetorical patterns of the native language. Similarly, readers naturally expect discourse to be patterned according to the conventions of their own culture. A person reading a story written in the rhetorical tradition of another culture may have a tendency to transfer the discourse interpretation rules of the first language to the text in the second language. This phenomenon applies to writing as well. Kaplan (1966) provides some examples. Arabic speakers learning to write English prose tend to include many instances of parallelism, which is common in Semitic languages. Similarly, Oriental prose contains a circular rhetorical pattern, because topics are developed indirectly through a discussion of tangential views. Furthermore, Romance and Russian prose contains long digressions. These differences in rhetorical thought patterns are illustrated generally in Kaplan's (1966) diagram (Figure 2.5). However, no claim is being made that these are representative of all writers and all texts within each cultural group.

Kaplan's representation of English as a linear system should not imply that English prose is not hierarchically structured. English expository prose contains many interrelated segments (Hinds, 1979). Furthermore, narrative prose is hierarchically organized, as demonstrated by research on *story grammar* (Stein & Glenn, 1978; Stein & Trabasso,

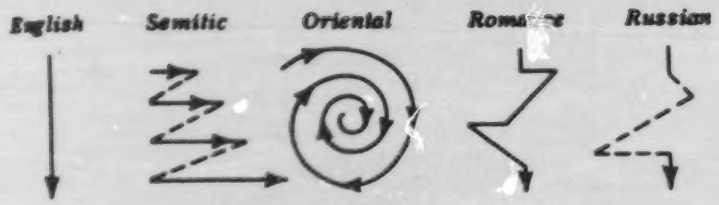

Figure 2.5. Schematic illustration of cultural thought patterns represented in prose.

Note. From "Cultural Thought Patterns in Intercultural Education" by Robert B. Kaplan, 1966, *Language Learning, 16*(2), p. 15. Copyright © 1966 by Research Club in Language Learning. Used with the permission of the publisher and the author.

1981). Story grammar is an attempt to codify the internal representation of a reader's or hearer's hierarchical grammar for stories. In story grammar, a story consists of categories, such as setting or event, that structure episodes. Also included are initiating events and internal and external responses, attempts, consequences, and resolutions, to name a few categories. The diagram in Figure 2.6 (Tierney & Mosenthal, 1982, p. 80) illustrates a hierarchical model of a simple story.

Another aspect of discourse is *cohesion*, which is a property of text that exists by virtue of language devices that tie together related information. Halliday and Hasan (1976) produced a model of cohesion in English consisting of a set of elaborate devices that speakers and writers use to relate new information to previous (old) information: reference, substitution/ellipsis, lexical cohesion,

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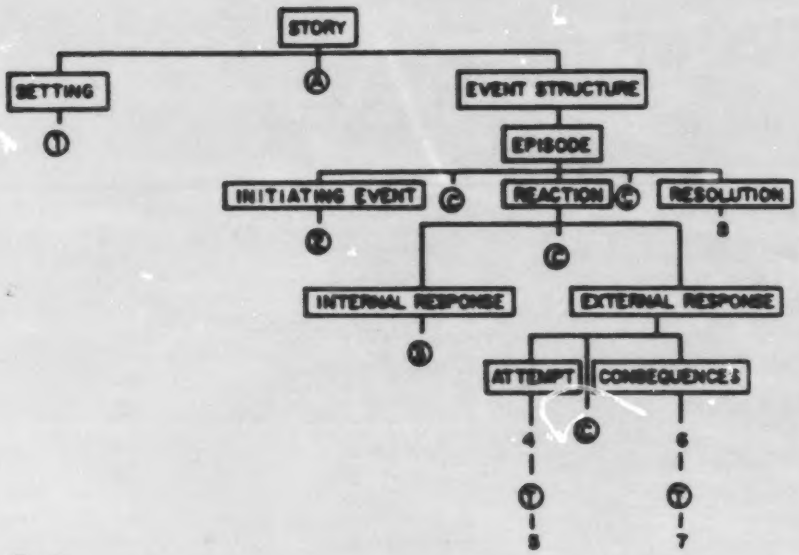

Text

1. Dick lived on a farm in Vermont.
2. One night he heard a fox in the chicken coop.
3. He knew he had to kill it.
4. Dick got his rifle
5. and went to the chicken coop.
6. He surprised the fox with a chicken in its mouth.
7. Dick shot the fox where it stood.
8. Dick buried the fox.

Figure 2.6. A story grammar analysis of a simple story.

Note. From "Discourse Comprehension and Production: Analysing Text Structure and Cohesion" by R. Tierney and J. Mosenthal in *Reader Meets Author/Bridging the Gap*, edited by J. Langer and M.T. Smith-Burke, 1982, Newark, DE: International Reading Association. Copyright © 1982 by the International Reading Association. Used with permission of the authors and the International Reading Association.

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and conjunction. An example of reference is personal pronouns:

> Peter, Rachel, and Joseph rode their wagons down the sidewalk. Suddenly *they* stopped as a bicycle sped across *their* paths.

Here, the personal pronouns relate information in the second sentence to the first sentence. An example of substitution occurs in the following sentence:

> Rachel enjoys her Montessori school.
> *So does* Peter.

So does substitutes for the predicate in the first sentence. A related feature of cohesion is *ellipsis*, which is basically a deletion of a phrase or word, whose meaning is assumed. For example,

> Rachel was planning to walk to the park.
> Peter and Joseph were, too.

Here, the entire phrase (*planning to walk to the park*) was deleted in the second sentence; the meaning is assumed because of the conventions of cohesion.

Conjunction is another frequently used convention of conesion. Ideas are related to a text by certain words (*and, but, or, nor, however, because, then, furthermore*, etc.). Such words indicate various semantic relations in the text, such as cause-and-effect, time sequence, addition, comparison, or contrast.

A fourth type of cohesion is *lexical cohesion*. In a discourse, a given word can be used to relate to a similar concept:

> *Abraham Lincoln* was truly a public servant.
> The *sixteenth president* signed the Emancipation Proclamation.

This area of cohesion interacts very closely with

prior knowledge. A reader needs not only to know the meaning of a lexical item, but also to know how words and concepts relate in his or her schemata. (See previous section on vocabulary.)

Related to cohesion is *coherence*. Coherence is the property of text in which the ideas are unified, making a text comprehensible to a reader. However, there is disagreement in the literature as to the role of cohesion in the coherence of text (see Carrell, 1982; Tierney & Mosenthal, 1981).

Understanding cohesion is an important part of a reading teacher's professional knowledge (Irwin, in press). The teacher can do much to assist students in recognizing how the ideas in a text are unified. This knowledge is extremely important for second language readers' comprehension, as cohesive devices affect their information-gathering skills (Mackay, 1979). (For additional discussion of discourse properties and reading comprehension, see Tierney & Mosenthal, 1982).

A most relevant question to ask is: Do differences in the structure of text affect the comprehension of readers from various cultures? Cross-cultural differences in comprehension are suggested in examining differences in story grammar structure across languages. For example, Matsuyama (1983) claimed that story grammar based on Western culture is not useful for describing stories in Japanese culture because many Japanese stories lack goal structures for the main characters. Kintsch and Greene (1978) found that American university students recalled information from Western culture (e.g., Brothers Grimm fairy tales) better than from Indian folk tales. However, Mandler, Scribner, Cole, and DeForest (1980) found that Liberian and American students performed similarly in recalling information from Liberian stories, heard in their own language. They argued that many story structures are universal across languages and cultures. Yet Carrell (1984a) found that the sequencing of events in stories affected the reading comprehension of intermediate second language learners.

Cross-cultural differences in expository text have also been investigated. Carrell (1984b)

reported an experiment in which the rhetorical organization of text affected the recall of native Spanish, Arabic, and Oriental readers in an intensive English program for foreign university students. Some variation in rhetorical devices was found to influence the ideas recalled by various ESL readers; there also appear to be different effects of different discourse types on the quantity of ideas included in free written recall, depending on the specific native language of the ESL reader. However, Connor (1984) found no significant difference among three language groups (English, Japanese, and Spanish) in recall of high-level ideas in text, although the native English readers outperformed the nonnative English readers in total recall (see also Connor & McCagg, 1983). As there appear to be some contradictory findings of various studies on cross-cultural discourse comprehension, this new area is open to further investigation.

STRATEGIES FOR TEACHING DISCOURSE COMPREHENSION

Although research is still needed on cross-cultural comprehension, several activities can help teachers facilitate discourse-level comprehension. Again, it is important to use natural texts for instruction, since much awareness of language structures is a result of reading exposure.

Many of the techniques discussed earlier are invaluable for facilitating discourse awareness, especially as teachers direct students' reading through a text. The LEA, in which students dictate an experience-based story, can be useful. The teacher can lead students to discover alternate discourse patterns for their dictated drafts. Through questioning, the teacher can lead students to develop their prose by incorporating various types of cohesion devices, for example.

The DR-TA is another basic comprehension technique. Through reading a story, directed by the teacher, the students become more proficient at

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using strategies that predict, confirm, and reject information in a text. The teacher can draw the students' attention to various elements of discourse (cohesion, story structure, causal relations, etc.). Similarly, the ETR method and the PReP method can be adopted to incorporate discourse awareness. With the ECOLA technique, students can also develop discourse awareness as they *write* about the content they are reading (see Kaplan, 1966, for some strategies for teaching English rhetorical patterns).

In addition to these basic approaches to reading, other approaches deal with discourse structure. For example, the classic approach paraphrases and summarizes a passage where specific discourse relations are preserved (e.g., the relations of main ideas to details; the natural sequencing of events; various cause-and-effect relations). In fact, many of the relations can be represented by a visual model (Pearson & D.D. Johnson, 1978, pp. 94-95). To represent the relationship of details to main idea, a variety of diagrams can be used. For example, Pearson and D.D. Johnson (1978) suggest a hub with spokes or an inverted tree diagram (Figs. 2.7 and 2.8).

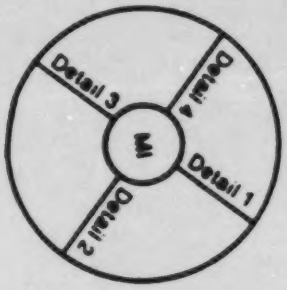

Figure 2.7. A hub and the spokes that keep it off the ground.

Note. From *Teaching Reading Comprehension* (p. 94) by P.D. Pearson and D.D. Johnson, 1978, New York: Holt, Rinehart and Winston, Inc. Copyright © 1978 by Holt, Rinehart and Winston. Reprinted by permission of CBS College Publishing.

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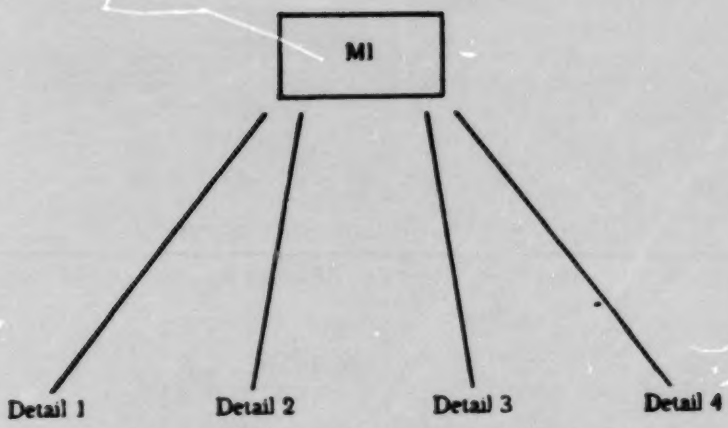

Figure 2.8. An inverted tree, to emphasize the fact that details are logically subordinate to main ideas.

Note. From *Teaching Reading Comprehension* (p. 95) by P.D. Pearson and D.D. Johnson, 1978, New York: Holt, Rinehart and Winston, Inc. Copyright © 1978 by Holt, Rinehart and Winston. Reprinted by permission of CBS College Publishing.

Similarly, diagrams can include time lines for representing a sequence of events or chain diagrams for representing cause-and-effect relationships.

Visual diagrams can serve as useful alternatives to the traditional outlining approach. T.H. Anderson (1978) noted that, although outlining enables students to detect which ideas are subordinate to others, outlines do not show why or how ideas are related. T.H. Anderson argues that "mapping" is a better alternative to studying the content of text. With mapping, ideas are visually diagrammed in terms of segmented boxes and lines specifying the semantic relationships within a text; the shape of the map represents the organization patterns of ideas. A list of the specific conventions of mapping different text relationships is presented in Figure 2.9 (Tierney & Mosenthal, 1982, pp. 95-96).

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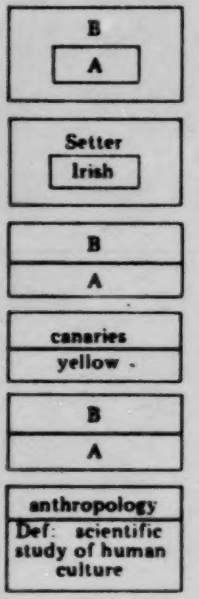
Figure 2.9. Summary of mapping relationships and symbols.

1. Concept and Examples
   A is an instance of B
   Example: A common type of setter is the Irish setter.



2. Concept and Properties
   A is a property B
   Example: Canaries are yellow.

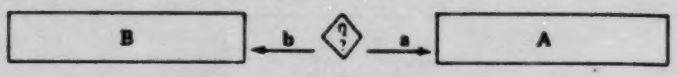
3. Concept and Definition
   A defines (restates, clarifies) B
   Example: Anthropology is the scientific study of human culture.

4. Temporal Relationship
   A occurs before B A → B
   Example: Nixon resigned shortly before the Bicentennial celebration.

5. Causal Relationship
   A causes B A ⟹ B
   Example: Excessive exposure to the sun causes sunburn.

6. Enablement
   A enables B

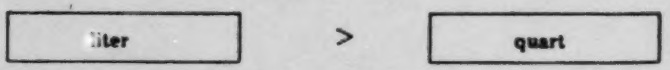
7. Conditional Relationship
   A is a condition of a B is a condition of b



8. Relationship of Comparison
   (a) A is similar to B A ≈ B
   Example: In most respects, Illinois and Ohio are very similar.

   (b) A is not similar to B A ≉ B
   Example: The Soviet economic system is quite different from the American system.

   (c) A is greater than B A > B
   A is less than B A < B
   Example: A liter is slightly more than a quart.



Note. From "Discourse Comprehension and Production: Analyzing Text Structure and Cohesion" by R. Tierney and J. Mosenthal in *Reader Meets Author/Bridging the Gap: A Psycholinguistic and Sociolinguistic Perspective*, pp. 95-96, edited by J. Langer and M.T. Smith-Burke, 1982, Newark, DE: International Reading Association. Copyright © 1982 by the International Reading Association. Used with permission of the authors and the International Reading Association.

While most of these techniques have been used with native speakers of English, many are useful in facilitating the discourse comprehension of second language readers. Since these techniques help readers to be concerned with higher-level organization of text, which is crucial to reading academic material, they can help second language readers who are bound to word-level and sentence-level reading.

In dealing with discourse, additional strategies are used in the ESL field. For reading academic discourse, advanced-level ESL readers can be led to divide a text into basic notional blocks and place them into a hierarchical arrangement. After the students are prepared to read a text, a sample reading exercise consists of several steps. First, the students read the text or portion of text. Next, the students answer oral or written questions that help them focus on content and rhetorical aspects of the text. Students then divide the text into blocs, summarize each bloc with a key phrase, and rearrange the blocs into a hierarchical structure. Teachers should lead a discussion to guide the students in developing their schemata for content and form (Blanton, 1984).

In addition, for a variety of age and proficiency levels, a reading teacher may select texts whose discourse structure (as well as content, syntax, etc.) are more familiar to the students. Texts can also be unmodified, modified, or specially written to meet the proficiency levels of the second language reader (Mackay & Mountford, 1979). Likewise, intensive and extensive reading, with appropriate questioning, can facilitate the ESL students' reading (Munby, 1979). The area of discourse comprehension research and instruction is rapidly expanding in the reading field and in the ESL field. Much needs to be explored in terms of the research and development of discourse strategies for non-native speakers.

SYNTAX AND READING DEVELOPMENT

Recent research on linguistics and reading has examined units beyond the level of the sentence. However, in the 1960s and 1970s, syntactic movements in linguistic theory had parallel influences on reading research (Barnitz, 1975). Much of the research on syntactic aspects of reading can be grouped into four major categories (Barnitz, 1981).

Many studies demonstrated syntactic effects *comparing children's oral language patterns with syntactic patterns* occurring in beginning reading texts. Strickland (1962), Ruddell (1965), and Tatham (1970) found that the closer the match between the syntactic patterns of children's language and the text, the higher the students scored on reading achievement tests. Likewise, children with good comprehension tended to display more syntactic variety and more syntactic complexity in oral language. This finding stands to reason, as Carol Chomsky (1972) correlated reading exposure with children's oral syntactic development. Most recently, Eckhoff (1983) demonstrated that the syntactic patterns found in children's writing were influenced by the syntactic structure of beginning reading series. These studies document the interrelationship of syntactic development and proficiency in the language arts (see also Loban, 1976; Weaver, 1979).

The second set of studies examined the *role of syntactic patterns in oral reading*. Beaver (1968) and K.S. Goodman (1973) reported that children made transformational shifts in their oral reading. Children made deletions, insertions, permutations, and so on, which are naturally expected when readers indeed process meaning. Such influences had little effect on meaning. Likewise, K.S. Goodman (1965) found that children, when reading orally, read words better in sentences than in word lists. This finding illustrates the role of syntax and context in word recognition.

Many studies examined the *role of syntax in written language processing*, involving the eye-voice

span and eye movements. Schlesinger (1968) demonstrated that, for Hebrew speakers, the eye-voice span (the syntactic distance between the oral utterance and the position of the eye) is affected by the constituent boundaries. Levin and Kaplan (1968) found that the passive transformation and left branching also affected the eye-voice span. Similarly, Wanat (1971) found that syntactic processes are related to adult readers' regressive fixations and regressions (see Gibson & Levin, 1975, for more discussion).

Finally, the most common approach used to investigate syntactic aspects of reading is to conduct psycholinguistic experiments on *syntactic complexity and comprehension*, embedding specific target structures within discourse, and asking children questions based on the content of the target structures. Using this paradigm, for example, aspects of pronoun referent structures were found to affect the difficulty of material (Barnitz, 1979, 1980c; Richek, 1977). However, research has also shown that syntactic effects may be overriden by the semantic content of the material (Barnitz & Morgan, 1983; Lesgold, 1974; Pearson, 1975). This finding should not be surprising because many levels of language and schemata influence comprehension.

While syntax may not always have a strong effect on reading a first language, it is quite natural to expect a greater potential for effects of syntactic differences on reading a second language, especially as syntax affects perceptual strategies of listeners and readers (Bever, 1970; Cowan, 1976). This point can easily be illustrated by the following sentence (Hook, 1972):

yabanawmawildijigumma'nigi

ya = several people move
banawma = everybody
wil = across
diji = to the West
gumma = indeed
ha' = let us
nigi = we

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This sentence from the Yana Indian language in northern California can be translated into English: "Let us each move to the West." If the grammar of the native speaker learning to read a second language is different from that of the target language, the reader may have difficulty predicting and integrating the semantic roles of the words/morphemes in the sentence. Thus, contrastive analyses of syntax may be useful in anticipating possible points of difficulty (Cowan, 1976; Brownscombe, 1977). For example, in learning to read English, Hindi speakers may expect to find a deleted noun rather than a pronominalized noun phrase in a text. Similarly, Persian speakers, when reading relative clauses, may expect to find a subordinate marker at the beginning of the clause with the antecedent elsewhere in the clause, unlike English. Thus, the referential function of English relative pronouns could be misconstrued. Nilagupta (1977) found that certain syntactic structures in English were difficult for native Thai college students to read. These included negation, passivization, embedding, deletion, and nominalization. In addition, as Thai adjectives follow the nouns they modify, English adjectives are frequently interpreted as verbs by Thai readers of English. Although syntactic differences influence second language reading, second language readers will not always have difficulty (Brownscombe, 1977). Likewise, Flores (1982) documented language differences as influencing rather than interfering with reading. Processing syntax in first and second languages involves more than the syntax itself; it involves the other linguistic and cognitive factors as well (schemata, context, lexical knowledge, etc.) Thus, a difficult sentence might very well be understood from context.

DEVELOPING SYNTACTIC ASPECTS OF READING

Keeping in mind the potential for processing difficulties posed by nonnative syntactic struc-

tures, several principles and strategies can help teachers facilitate the reading of syntactically difficult material. Any exercises or activities focusing on specific pieces of language, such as syntax, should be related to the total passage. Exercises isolated from reading for meaning should be avoided, because isolating aspects of language and reading destroys the integration of skills in the interactive reading process. However, a short demonstration related to a difficult structure in a passage can be helpful to a confused reader. Thus, teachers need to become aware of the syntactic and discourse structures of the reading selections, being prepared to assist any readers who need help with a given structure.

Another principle to keep in mind is that the discovery of syntactic structure and syntactic meaning is best accomplished through an inductive approach, for reading is something that students *do* (Eskey, 1970). Wilson (1973) noted, furthermore, that teachers should guide students to generalize how sentences convey meaning by first reviewing a known pattern and then presenting a new pattern related to it.

Several specific approaches are useful in facilitating syntactic comprehension. These were classified by Barnitz (1979) into five categories: paraphrase techniques, cloze techniques, manipulation of text, sentence building and combining, and questioning. These teaching strategies can be related to specific reading selections and can be used to supplement, but not replace, more holistic strategies such as LEA, DR-TA, and so on. Again, isolated drills out of context of reading whole texts should be discouraged.

Paraphrase techniques generally require learners to either restate the propositional content of the target sentences or to identify paraphrases of sentences with similar meaning (see Pearson & D.D. Johnson, 1978).

The cloze procedure has been traditionally used as a technique for determining readability, whereby students supply words that have been deleted (see Taylor, 1953; Bormuth, 1968). The procedure has

also been refined to measure various aspects of reading ability (e.g., Casbergue, 1984; De Santi, 1982; Sullivan, 1983) and of ESL proficiency (see Clarke & Burdell, 1977, and Oller, 1979). The technique has also been recommended for teaching sentence-level comprehension in a first language (Pearson & D.D. Johnson, 1978) and in a second language (Norris, 1970).

Manipulation of a text is another way teachers can facilitate comprehension of difficult syntax. For example, Milagupta (1977) recommends simplified texts with controlled syntax and vocabulary to be used with college-level Thai ESL students. A text can be manipulated in at least two ways: (a) change the format of difficult complex sentences to illustrate phrase boundaries or embeddings; and (b) rewrite parts of a story so that the difficult sentences are rewritten (see also Mason & Kendall, 1978).

Sentence building and sentence combining activities are also useful. In sentence building (or sentence expansion), a simple sentence is presented (such as *The girl jumped*), and the teacher inductively leads the students to expand the sentence (e.g., *The young girl in the park jumped joyfully into the sandbox*; Fennimore, 1980).

Likewise, sentence combining (O'Hare, 1973; Combs, 1977) allows students to become sensitive to transformational processes. For example, the students learn how to embed sentences in English, along with the various constraints involved in embedding. Likewise, students can decombine complex written text to discover the syntactic processes of English. Sentence building and sentence combining activities can also be used in conjunction with the LEA by having students expand the sentences in their dictated stories.

Questioning is a basic technique for facilitating learning and reading comprehension. Questions can be developed at the literal and inferential level to help students focus on specific aspects of syntax within a text. A teacher can then guide the students to comprehend a particular syntactic pattern within a text. Thus, syntactic instruction can

be incorporated within other approaches to teaching reading, such as the DR-TA.

In addition to the approaches outlined by Barnitz (1979), Onativia and Donoso (1977) recommend a "bilingual method" for facilitating syntactic learning, in which picture cards and word cards in English and the native language are juxtaposed to illustrate similarities and differences in the syntactic ways that the two languages convey meaning. Similarly, teachers can use commercial games for syntactic reading (e.g., Sentence Cubes). For more advanced-level readers, intensive reading study is a valuable context for analyzing syntactic aspects of text (Berman, 1979). In this approach, reading for meaning is maintained, while at the same time the students develop their syntactic knowledge. However, regardless of the approach that is used, syntax should be examined as it relates to meaning rather than treated as a formal object in itself. (For more discussion on the role of grammar in language arts instruction, see Weaver, 1979.)

MORPHOLOGICAL DIFFERENCES AND READING DEVELOPMENT

Morphemes are the individual word parts that contribute to the meaning of words. Morphology is the area of language that has traditionally formed a major part of learning to read a first and second language. In reading curricula this area is frequently labeled *structural analysis*, and it is frequently included in the vocabulary component of reading instruction. Thus, the study of roots, prefixes, and suffixes of a language has been a major aspect of reading instruction, sometimes to the exclusion of higher-level comprehension instruction and more schematic aspects of vocabulary, discussed earlier.

Nonetheless, the morphology of the English language does contain some stumbling blocks for nonnative speakers, especially if the native language

has a system that is quite different. Research has traditionally demonstrated that the acquisition of English morphemes is generally the same regardless of the native language (Dulay & Burt, 1974; Bailey, Madden, & Krashen, 1974; Larsen-Freeman, 1975). In these studies, most of the nonnative speakers of English already had a conceptualization of morphemes. For example, since many Western languages have prefixes and suffixes, these concepts are already part of the "perceptual strategies" (Bever, 1970) of many second-language learners of English. However, when second-language learners speak a non-Western native language that does not have morphemes such as prefixes and suffixes, the concept of such morphemes can be more problematic (Greene, 1981, 1983).

When contrasting the morphology of two languages, is there a "morpheme conceptualization barrier"? Greene (1981, 1983) investigated this phenomenon, especially to determine whether there is a hierarchy of difficulty for morpheme structures in adolescent and adult native Vietnamese speakers' reading.

As noted earlier, second language research generally supports the claim that second language learners of English tend to learn English morpheme structures in the same order, regardless of the nature of the first language. For this reason, a contrastive analysis of morphology will *not* necessarily be useful in predicting the errors of second language learners. Greene (1981, 1983) noted that previous studies on morpheme acquisition predominantly examined inflected languages. It is natural to expect that readers whose first language has inflectional morphology to already have a schema for processing inflections as part of the English reading process. So Greene developed a reading comprehension study, using modified cloze passages, in which specific morphemes were deleted. She presented the passages to native speakers of Vietnamese, a language that does not generally inflect for plurals, tense, or aspect (see Grognet et al., 1977). Greene found a statistically significant different hierarchy of difficulty for Vietnamese

speakers, when compared with the results in other studies. Most interestingly, a subset of Greene's Vietnamese sample was also bilingual, having French, an inflected language, as a second language. These subjects, having already developed perceptual strategies for inflectional processing in reading, mastered English inflectional morphology in a similar order to other learners who spoke inflected languages before learning English. Thus, morpheme conceptualization can influence reading and learning a second language. Greene (1983) implies that although Asian readers may read for comprehension, their comprehension may be further refined as they overcome the barrier of inflectional morpheme conceptualization.

It is relevant to mention here that research has already shown that morpheme differences between standard and nonstandard dialects may also have an influence on the reading of nonstandard dialect-speaking students (Labov, 1970; Steffensen, Reynolds, McClure, & Guthrie, 1981). However, dialect speakers often rely on other clues in a passage for comprehension, although they may orally read in their dialect, as noted by Sims (1982). (See Barnitz, 1980a and 1982b, for additional reviews on dialects and reading.)

Keeping in mind that many speakers will need a linguistic awareness of English morpheme structure and that reading morphemes is only a part of the total reading process, what general strategies are available for developing morpheme acquisition in reading?

Generally speaking, structural analysis involves several components: prefixes, suffixes, roots, and compound words. According to Johnson and Pearson (1984), a very useful strategy for developing structural analysis ability is word building or word extending. Throughout many activities, students need to have many natural contexts within which to build, extend, and manipulate morphemes.

In teaching word formation to ESL learners, Celce-Murcia and Rosensweig (1979) suggest selecting items from more common suffixes and prefixes and ask students to find example words in which these forms

are used. Likewise, students can be asked to change functions of words by adding or subtracting basic prefixes and suffixes.

For example:

to agree	an agreement
to punish	_____
to argue	_____

(Celce-Murcia & Rosensweig, 1979, p. 254)

As students gain more confidence with these and other aspects of morphology (e.g., Greek and Latin roots), they can be encouraged to guess meanings of words in context. They can be guided to do this within various major reading approaches, such as the DR-TA or intensive and extensive reading, discussed earlier.

The cloze procedure (or modified cloze passages) can also be useful in guiding students to become aware of crucial word parts in context. Within a reading selection, the target suffixes can be omitted and the ESL students can be led to put the appropriate endings on words. This technique can be useful for ESL students whose first language does not have inflectional morphology.

Likewise, teachers can disguise the traditional list of Latin and Greek prefixes and suffixes. The use of games, crossword puzzles, and other means can facilitate and motivate the acquisition of morphemes. Furthermore, students will learn morphology by using it; involving the students in writing and speaking activities can facilitate language learning. However, no matter what methods are used, the students should have instruction in morphology that is related directly to reading selections. Over-isolating individual parts of language can destroy the connection the students will make between the morphemes and the meaningful reading process.

PHONOLOGICAL DIFFERENCES, ORTHOGRAPHIES, AND READING

The smallest minimal cue to meaningful reading of a first and second language is the phonological system (sound system), which is related to the orthographic system (writing system) of a language. In learning to read any language, students need to master the relationship between the auditory and visual cues to meaning. Yet, as students become more proficient in using higher-level cues, the phonographemic aspects of reading become far less important. However, in learning to read a second language, the students may find some stumbling blocks because of either phonological or orthographic influences.

Phonological differences can affect the auditory associations between sounds and symbols, as well as auditory discrimination (Geissal & Knafle, 1977; Hatch, 1971; Hatch, 1979). For example, Hatch (1971) (as described in Hatch, 1974) found that Spanish-speaking children in fourth-grade English classes misread (i.e., misunderstood) the word *cat* as *cot* in multiple-choice tasks because there is no /æ/ sound in Spanish. Similarly, as no phonological distinction is made between the middle sounds of *fit* and *feet* or *grin* and *green*, the Spanish children misunderstood the meanings of the words. This problem is especially likely whenever a contrast is made in the target language that is not in the native language. Additional examples from various languages include the lack of contrast between /l/ and /r/, as in Japanese and Bantu languages (Serpell, 1968), producing homonym pairs such as *light/right*, *cloud/crowd*, *lip/rip* (Hatch, 1974). However, the phonological differences will not always cause the second language reader to stumble, especially if he or she is able to use context to assign meaning rather than auditory discrimination, similar to the way native speakers distinguish *knight/night*, *meat/meet* or *reign/rain*. Thus, phonological differences do not always hinder the construction of meaning.

In addition to the potential influence of auditory differences, there is a potential for writing system differences to be involved in learning to read. There is some evidence that a contrastive analysis of writing systems explains many second-language spelling errors (Oller & Ziahosseiny, 1970). A brief discussion of orthographies is relevant to second language reading teachers (see Barnitz, 1978, 1982a; Kavanagh & Venezky, 1980; Gleitman & Rozin, 1977; I. Taylor & M.M. Taylor, 1983, for fuller discussions).

Writing systems can generally be classified according to the type of relationship to languages. Traditionally, writing systems can represent meaning and/or various levels of the phonological system of language. A writing system in which the symbol corresponds to meaning is a *logographic system*. Chinese is often cited as a good example of this type of system. Much of the Chinese system involves a combination of logographic symbols, one giving a clue to pronunciation (*phonetic*), the other giving a clue to meaning (*signific*), as illustrated in Figure 2.10 (Barnitz, 1978; Cowan, personal communication, June, 1976).

Other types of writing systems are related more directly to the sound system of language. Orthographies that represent syllables are called syllabaries, as in Cherokee and Japanese. In fact, the Japanese language has a combination of scripts, the syllabic *kana* script and the logographic *kanji* script. Some research has indicated that both of these scripts are processed differently (Steinberg & Yamada, 1979a, 1979b; Tzeng & Singer, 1979). Furthermore, Makita (1968) suggested that reading disability is relatively minimal in Japan because of the direct correspondence of symbols and syllables. However, nonlinguistic factors may have contributed to this finding.

The writing system most frequently used in modern languages is the *alphabet*, in which the scripts generally relate to the phonemic system of a language. Examples include the scripts used in Hindi, Russian, Arabic, Greek, Cambodian, and Vietnamese. The most frequently used alphabet is the

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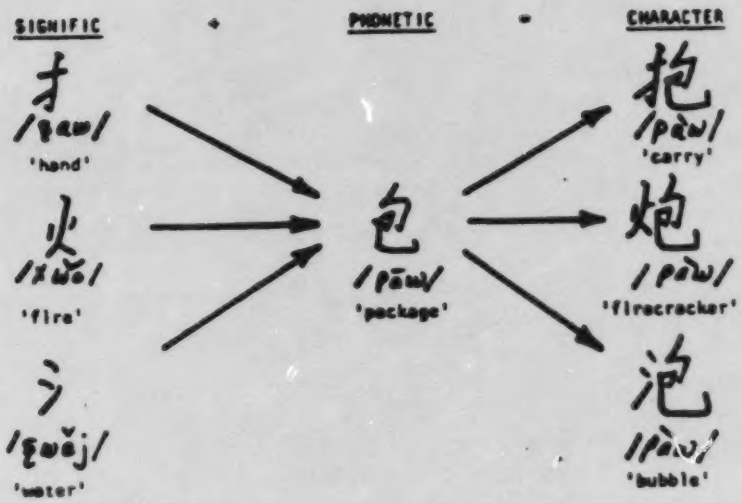

Figure 2.10. An illustration of Chinese writing.

Note. From *Interrelationship of Orthography and Phonological Structure in Learning to Read* (Technical Report No. 57) (p. 5) by J. Barnitz, 1978, Champaign, IL: University of Illinois, Center for the Study of Reading. Copyright © 1978 by Center for the Study of Reading. Used with permission of the author and the Center for the Study of Reading. The author is also grateful to J Ronayne Cowan for this figure.

Roman alphabet, which spread both to countries without written traditions and to lands with other systems. A spread of a writing system was often motivated by the evangelization of native populations by Christian missionaries or through colonization (see Stubb, 1980). For example, French and Portuguese missionaries brought the Roman alphabet

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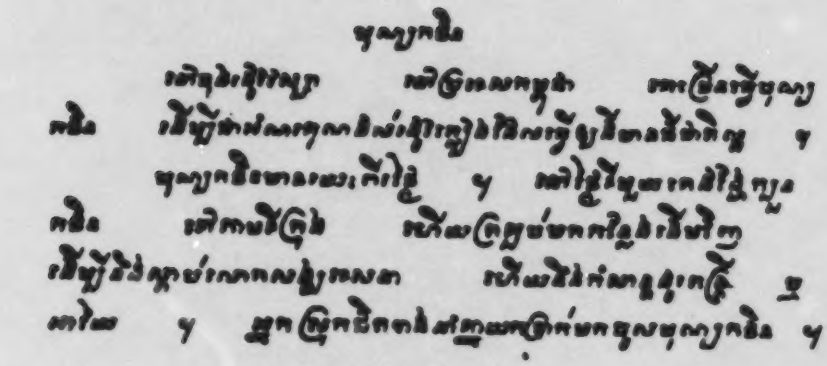
Cambodian:



Laotian:

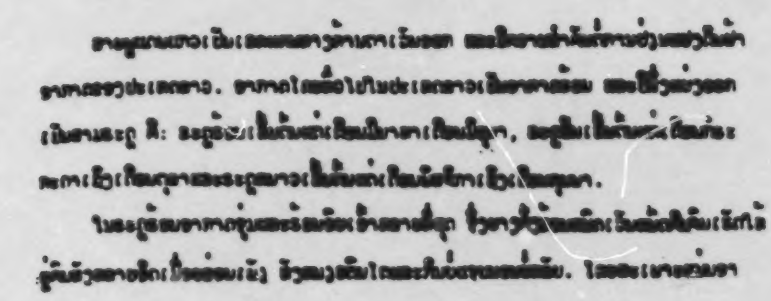


Figure 2.11. Examples of Cambodian and Laotian script.

Note. From *A Manual for Indochinese Refugee Education 1976-77* (pp. 75, 76) by A.G. Grognet et al., 1977, Arlington, VA: National Indochinese Clearinghouse, Center for Applied Linguistics. Copyright © 1977 by the Center for Applied Linguistics. Reprinted by permission.

to the Vietnamese in the 16th century, the letters of which do not always share the same phonemic values as in English. Also, the alphabets of Cambodians and Laotians evolved from the alphabet used for Sanskrit (Grognet et al., 1977). These developments illustrate cultural influences on written language.

The Roman alphabet does not correspond to various languages in the same way. Chao (1968) noted that some languages have a near one-to-one phoneme-grapheme fit (Spanish); some have a one-to-many phoneme-grapheme fit (French); while English has a many-to-many phoneme-grapheme system. The detailed discussion that English orthography deserves cannot be provided here (see Venezky, 1967; Chomsky, 1970; Barnitz, 1978; and various issues of *Spelling Progress Quarterly*). However, reading teachers should be aware of the fact that English orthography has various degrees of relationships to the sound system of language. In many cases, a symbol corresponds directly to a sound (the consonants in *diplomat*); but in certain cases a sound is subject to various phonological processes: Note that the *t* in *writer* is frequently pronounced as /d/ in standard American English because of its position between two vowels, making it almost homophonous to *rider* for nonnative speakers, although there is a phonetic difference in vowel length. Moreover, much of English orthography involves a deeper meaning-based relationship to the language. Thus, although the spellings of *malign*, *sign*, and *crumb* have silent consonants, their presence is important in preserving the relationship of these words to other words in a paradigm (*malignant*, *signal*, *crumble*); likewise, *precede/precedent*, *compose/composition*). Thus, many surface irregularities have a purpose in preserving the visual relationship of many roots and the words derived from them. If readers are aware of this phenomenon, then reading is facilitated (Chomsky, 1970). However, many of the true irregularities of English orthography are the result of cultural and historical influences (see Barnitz,

1980b), which may not always facilitate learning to read by first or second language learners.

DEVELOPING AWARENESS OF ORTHOGRAPHY

Reading teachers of nonnative speakers of English need to be aware of some basic problems that students may have initially.

If students are literate in their native language, then they will already have a working knowledge of how a writing system works. If the system is an alphabet, then the students already have an awareness that the new writing system will function in similar ways. However, the fact that the native language uses a Roman alphabet does not imply that the students will easily grasp every aspect of English orthography. In the native language there may be a different type of relationship between a specific symbol and sound, ranging from a highly close fit between phonemes and graphemes, as in Spanish or Finnish, to a more abstract relationship. Much of English orthography is related to a deeper morphological level of language (Chomsky, 1970).

Likewise, many English symbols may represent different sounds to the nonnative speaker. As noted by Grognet et al. (1977), the Vietnamese letter *x* in words such as *xinh*, *xu*, and *xe* is much closer to an English *s* or *s*: "sin," "soo," and "say." Furthermore, the native writing system, though using a Roman alphabet, may have a different diacritical marking system. Again using Vietnamese as an example, Vietnamese, a tone language in which the pitch of a syllable or word can make a difference in meaning, would mark *ma* differently. In Vietnamese, *Ma* means "ghost"; *má* means "cheek" or "mom"; *mà* is the pronoun "which" or "that"; *mả* is a "grave"; *mã* means "horse"; *mạ* is "rice seedling" (Grognet et al., 1977).

For any nonnative speaker, it is important to realize that the nonnative reader of English will

usually assign the phoneme of the native language to the English grapheme. Thus, for example, a Vietnamese may be prompted to pronounce an *x* as an *s*. The use of context clues is most crucial to reading for meaning. Nonetheless, the ESL reading teacher must help the nonnative English reader to understand the systematic differences between the first and second language alphabets as related to sounds. Students who are literate in alphabetic languages that do not use a Roman system need to learn the entire English system from the beginning, although they will not have the problem of learning new phonemic associations for Roman symbols.

If the ESL reader is literate in a logographic system, such as Chinese, the teacher needs to lead the student to discover the major differences between an alphabet and logographic system. Perhaps through a lexical or whole-word approach that associates root words with derived words the Chinese student can use the already-mastered meaning-based writing system. Yet, many Chinese students will have already been exposed to alphabetic writing through *pinyin*, in transition to learning logographs. In essence, the reading teacher needs to discover, for each student, who is literate in a first language and what the nature of the student's exposure to various writing systems is.

However, if the students are not literate in their first language, then the students need to learn the entire speech-writing connection. In most cases, illiterate students have the dual problem of learning English as well as the writing system. Several general alternatives are available: immerse the students in the second language before teaching reading; teach initial literacy in the native language; or a combination of the two. This controversial topic will be discussed more fully later in this volume.

TEACHING PHONOLOGICAL-ORTHOGRAPHICAL ASPECTS OF READING

The ESL reading teacher needs to become aware of the various methods for teaching beginning reading to nonnative speakers, including the phonics, syllabary, linguistic, and whole-word approaches (Hatch, 1979). However, the Language Experience Approach, based on the holistic language-reading process, is more current.

In the phonics approach, the emphasis is placed on learning the alphabetic principle, or the relationship between phonemes and graphemes. Students learn generalizations for letter-sound correspondences as well as ways in which the letters and sounds are blended together to make words. However, phonics is limited by the fact that the English alphabet does not have a close phoneme-grapheme fit. Likewise, the phonics method does not involve meaning. ESL reading teachers must keep in mind that students need to have a working knowledge of the sound system and a basic sight vocabulary before they can begin learning phonic generalizations. In the syllabary method (Gleitman & Rozin, 1973), students first learn through a rebus principle. Basic letter combinations are related to syllable structures of English.

The linguistic approach is based on structural linguistics (Bloomfield, 1942; Fries, 1963) in that *patterns* of sounds and *patterns* of spelling are emphasized. Students learn basic patterns such as the CVC pattern (*cat*, *sat*, *mat*). According to Bloomfield (1942), children first learn regular patterns and are gradually led to more irregular surface patterns. Reading series are usually controlled and limited to basic patterns, which are systematically introduced. Thus, patterns of structure are given priority over meaning. According to Hatch (1979), the linguistic approach is the most popular of these four methods for teaching linguistically different students. Note that while the "linguistic approach" is based on structural linguistics, much of English orthography involves

deeper phonological processing (see Chomsky, 1970); thus students need to systematically discover additional patterns of language. (See Dickerson, 1975, for a discussion of teaching word stress to ESL students, and Templeton, 1983, for a discussion of vocabulary-based spelling instruction.)

The whole-word approach, commonly called the "look-say" approach, is the traditional approach of memorizing whole spellings of words associated with whole word meanings. Whole-word memorization is often combined with more systematic approaches. A whole-word approach is good for dealing with true irregularities (e.g., *knight/through*).

Beyond the basic approaches illustrated by Hatch (1979), other approaches deserve mention: the Laubach Method and the LEA. According to Aukerman (1971), Frank C. Laubach was a Christian missionary dedicated to spreading literacy by personally teaching illiterate peoples in various parts of the globe. With the slogan of "each one teach one" and a set of materials containing phonemic spellings (e.g., *appl, oliv*) associated with illustrative pictures, Laubach taught the alphabetic principle to the "silent billion of the world" (Aukerman, 1971, pp. 351-56).

Finally, while these and other approaches deal mostly with letter/word-level reading, the LEA, which has been discussed throughout this monograph, is useful in teaching the alphabetic principle (often combined with other approaches). Using stories dictated by the students, the teacher assists them in discovering the print-speech connection. The students gradually develop their sight vocabulary and phonic skills in the context of the total language-communication process (again, see Allen, 1974, Hall, 1981, and Stauffer, 1980). Again, the reading process or reading instruction cannot be isolated from whole language.

In conclusion, phonological and orthographical aspects of reading are crucial parts of the early reading development of native and nonnative speakers. However, since these are only parts of the total reading process, reading instruction must not stop there. Moreover, reading is a meaning-

based activity in which readers construct meaning for a text.

GENERAL SUMMARY

Reading is a multileveled, interactive, and hypothesis-generating process in which readers construct a meaningful representation of text by using their knowledge of the world and of langauge. Reading involves the use of various levels of language that provide access to the meaningful process. Reading occurs in social contexts. In this section, the components of background knowledge (schemata) and language (lexicon, discourse, syntax, morphology, phonology, orthography) were reviewed and the ways in which these systems are involved in reading were demonstrated. Ways in which teachers of nonnative readers can develop each of these areas, if students' native language influences or interferes with getting meaning, were also discussed. However, although language components and methods were discussed separately, none of the approaches for developing a piece of language or a piece of reading should be isolated from the total context for reading. Students should have many opportunities to read textual material that is natural and purposeful in real social contexts, rather than isolated exercises unrelated to the total reading process.

Reading teachers need to be knowledgeable of trends and issues associated with teaching reading to nonnative speakers. In the following section, we will review briefly some additional aspects of the reading jigsaw puzzle.

Several linguistic and cognitive systems that affect learning to read a first and second language were discussed in Chapter 2. This chapter briefly outlines four issues that are pertinent to understanding the state of the art on reading development of nonnative speakers: To what extent do orthographic similarities and differences affect learning to read a first and second language? Should initial literacy be taught in the mother tongue or the second language? What is the nature of reading and learning to read in different languages? What is recommended for training and retraining teachers about respecting linguistically different students and about facilitating their literacy growth? While the answers to these questions are certainly complex and would require lengthy exposition, each is reviewed briefly here and the reader is urged to consult the cited resources for thorough discussions.

ORTHOGRAPHIES, BILINGUALISM, AND READING

While the psycholinguistic movement has deemphasized the role of orthography in the reading process, graphic differences cannot be ignored in second language reading acquisition, especially given that two languages may have widely different writing systems. A few issues can be raised about the role of orthography in reading a first and second language.

Are orthographies in various languages processed in the same way? Research studies illustrate how various languages may require different phono-orthographic reading strategies depending on the writing system. Research on language disorders involving Japanese, a language with a combined syllabary and logographic system, illustrates that the ability to process various parts of the writing system is related to particular areas of the brain. Yamadori (1975), cited by Harris and Sipay (1981), found that a Japanese alexic adult could not read *Kana* (the syllabary system), but could read *Kanji* (logographs) (See I. Taylor and M.M. Taylor, 1983, pp. 71-75, for a description of various conditions of hemispheric processing for *Kanji* and *Kana*.) Likewise, informal research by Rozin, Poritsky, and Sotsky (1973) suggests the possibility that children with disabilities in learning to read a first language (English alphabet) were successful in learning to read some English words represented in Chinese logographs. Thus, these and other studies suggest differences in visual processing strategies for various writing systems. For more discussion on orthographic processing, see Kavanagh and Venezky (1980) and I. Taylor and M.M. Taylor (1983).

Caution must be taken in concluding that reading problems may be attributed to orthographies. K. Goodman, Y. Goodman, and Flores (1979) refuted the claim that a more regular orthography is easier to learn to read than a less regular orthography. Many English-speaking countries, with a highly complex alphabet, have high literacy rates. Cultural factors, such as parental support and the role of literacy in the community, can override the difficulty of an orthography. Reading problems are common to many different languages and writing systems. The reading process involves more than processing orthography. As discussed earlier, many linguistic factors interact in the reading process. However, some evidence exists that the regularities of an orthography can facilitate aspects of beginning reading (see Barnitz, 1978).

A related question to raise is: Will the nature of orthographic *differences* between a first

and second language influence the transfer of literacy from the first to a second language? Examples from Vietnamese were discussed in the last chapter that illustrated that a learner's lack of awareness of the different phonemic associations for a symbol can potentially be problematic, unless overridden by other language factors. Similarly, Cowan, and Sarmad (1976) asserted that the orthographic differences between Arabic script and Roman script can contribute to blocking the transfer of basic literacy skills for bilingual children in Iran. This argument became more convincing when the authors contrasted the Iran bilingual programs to bilingual programs in Canada, where immersion children were more successful in transferring literacy from French to English (Lambert & Tucker, 1972). Cowan and Sarmad argued that French and English were more closely related in orthography and language structure than the Persian and English languages. Thus, bilingual children would develop two parallel sets of perceptual strategies for reading English and Persian. Nevertheless, the most significant factor in learning to read the second language was the home language.

While the psycholinguistic movement in reading education has deemphasized the role of orthography in the reading process, orthographies cannot be ignored in our understanding of second language literacy learning. However, when examining the total reading process, there has been documentation of universality of the *total* process (K. Goodman & Y. Goodman, 1978; Hudelson, 1981).

MOTHER TONGUE OR SECOND LANGUAGE

A major area of scholarly and political debate is whether bilingual students or students with limited English proficiency should learn to read in their native language or in the second language. This issue is more than a linguistic one. K. Goodman, Y. Goodman, and Flores (1979) outline three

major considerations for developing literacy in multilingual communities:

> 1. All literacy programs must be based on careful consideration of linguistic realities in a given country, region, or community.
> 2. Literacy programs must be in tune with political, economic, and cultural realities.
> 3. Literacy programs must relate realistically to existing and potential educational programs. (pp. 9-10)

Each of these considerations is itself complex, and they interact to influence decisions about initial literacy in a first or second language.

Research can be found to support each position. Some of the studies supporting the position that literacy is best acquired in the mother tongue are Thonis (1970), Friedenberg (1983), and Modiano (1968). Thonis (1970) found that Spanish children, taught to read in their native language, were able to transfer literacy skills to the second language, English. Similarly, Friedenberg (1983) reported that Spanish-speaking Cuban-American children in Miami schools had higher English reading test scores if they were exposed to literacy instruction in Spanish, the first langauge. Likewise, Modiano (1968) found similar results, where Mexican Indian children, who were taught to read their native language first, transferred literacy to Spanish, the second language. Indirect evidence can also be found in the research of Leaverton (1973): Inner-city black children who first learned to read using material written in black English vernacular performed better in standard English reading than the children who did not use the transitional series. These studies support the claim that learning to read is best accomplished first in the language most meaningful to the children, the home tongue. Second language literacy is accomplished through transfer of skills, as children are exposed to reading in the second language.

Other studies support the position that reading can be acquired through immersion in the second language. Cohen (1974) found that English-speaking children, who were taught beginning reading in Spanish, transferred their literacy skills to English. Similarly, in the St. Lambert immersion program (Lambert & Tucker, 1972), native English-speaking children were immersed into a program in which instruction was conducted in French. While initial literacy was learned in French, the second language, some literacy skills transferred to English. Although many minority students will develop their cognitive/academic language proficiency by instruction in a first language, Cummins (1981), who supports a "common underlying proficiency model of bilingual proficiency," asserted that "experience with either language can promote the development of the proficiency underlying both languages, given adequate motivation and exposure to both, either in school or in the wider environment" (p. 25).

The decision about initial literacy in a first or second language is not only a psycholinguistic one, but also a sociolinguistic and sociopolitical one, since factors such as home language, socioeconomic status, and political considerations are involved in the issue. For more discussion on this issue, see K. Goodman, Y. Goodman, and Flores (1979) and Feitelson (1979).

READING IN DIFFERENT LANGUAGES

Another interesting topic is the study of reading and learning to read in different languages and in various nations. Two questions will be briefly discussed: (a) Is reading and learning to read the same across various languages? and (b) What is the nature of reading and learning to read in various nations?

In answering the first question, it is important to recall that reading involves a complex array

of cognitive processes that interact with various levels of language. Likewise, research supports the universality of the reading process, independent of the language in which the learner is becoming literate or biliterate.

Investigations of the oral reading performance of second language readers were reported by K. Goodman and Y. Goodman (1978), Flores (1982), Hudelson (1981), and Cziko (1980). K. Goodman and Y. Goodman (1978) compared the English oral reading performance and story retellings of bilingual children from several different populations in the United States: Texan Spanish, Arabic, Hawaiian, Samoan, and Navajo. This study demonstrated that, although linguistic differences will manifest themselves in reading, children from these populations were able to derive and produce meaning for a text. Furthermore, the authors argue that in order to read a second language, the children do not have to be totally proficient in the language, for children learn the second language as they use it and make sense using it. This study showed that linguistically different children can develop basic reading strategies: sampling, predicting, correcting, and confirming. Similarly, Flores (1982) claimed that, although language differences influence oral reading, they do not necessarily inhibit comprehension. Additional evidence was provided by Hudelson (1981), who presented miscue and cloze studies of readers from various populations: Spanish, Polish, Yiddish, Lebanese Arabic, German, and Japanese. Similarly, Cziko (1980) found that both native French-speaking students and competent French-as-a-second-language students in junior high school used both contextual and graphic clues in reading French. This finding documents the interactive nature of reading in French. However, Cziko also found that students with less competence in French were more text-bound and tended to rely more on lower-level text clues, rather than on higher-level contextual clues. While language differences may not interfere with reading, limited language proficiency can "short circuit" the universal reading process (Clarke, 1979). With continued functional reading exposure, combined with

second language instruction, second language readers can develop the universal process of reading.

However, to say that reading is a universal process independent of the language being read does not mean that there will be no specific language-related differences in learning to read. For example, Cowan and Sarmad (1976), who studied the reading performance of bilingual children in Iran, suggest that Persian/English-speaking children develop two sets of perceptual strategies for processing sentence structure because of the diverse differences in the grammars of the two languages: Persian and English. This sort of biliteracy may be different from French-English biliteracy, in which similar perceptual strategies are used, because of closer similarities between French and English than between Persian and English (Cowan & Sarmad, 1976). Likewise, the comparative discourse analysis studies (e.g., Kaplan, 1983) suggest the possibility of some language-specific text sampling strategies for comprehending and producing discourse. In addition, research on cross-cultural differences in learning to read suggest that orthographies may influence learning to read (see Downing, 1973; Kavanagh & Venezky, 1980; I. Taylor & M.M. Taylor, 1983). Thus language-specific strategies may be embedded in the universal reading process. More research is needed on this issue.

Secondly, as to the nature of reading and learning to read in various nations, this question is the heart of the field called *comparative reading*. According to Downing (1982), "The chief goal of comparative reading is to achieve a better theoretical and practical understanding of the fundamental psychological processes of literacy behavior, both in their learning and in their developed functioning" (p. 2). Thus, by examining reading and learning to read in various cultures, the educational practices of the United States can be compared.

Several examples serve to illustrate cross-national aspects of reading. The Soviet Union, which has a variety of languages and writing systems, holds a national policy (declared by Lenin in 1919) that reading instruction must be conducted in

the *mother tongue* as a means of eradicating illiteracy (Downing, 1984). Comparing the reading of boys and girls in the United States, girls are usually superior to boys in reading achievement in the primary grades; while, in other countries (e.g., Germany, Nigeria, India), the opposite trend is found. These differences are attributed to cultural stereotypes about the social roles of girls and boys (Downing, 1982).

Another interesting finding of comparative reading is the possibility that the cloze procedure may not measure the same aspects of reading ability in different languages--English, Japanese and Swedish (Grundin, Courtney, Langer, Pehrsson, Robinson, & Sakamoto, 1978).

Likewise, a comparison of various countries yields an understanding of various rates of reading disability (see Harris & Sipay, 1981) and various cultural and educational causes and solutions for it. In essence, comparative reading research can shed light on our understanding of the universal reading process. (For more information on comparative reading, see Downing, 1973; Feitelson, 1978; and Malmquist, 1982).

ON THE LINGUISTIC TRAINING OF TEACHERS

Teachers of reading have excellent opportunities to develop their professional knowledge about the reading process and the teaching of reading. At most universities, graduate and undergraduate teacher education courses are available on methods and materials for teaching reading, corrective reading, diagnostic and remedial reading, and reading in the academic areas. These courses provide teachers with a solid understanding of the reading process and ways of teaching and evaluating reading performance. However, most of the content of these reading courses focuses on reading and learning to read English as a first language. Colleges of education (in collaboration with colleagues in linguistics and

applied linguistics) need to provide opportunities for teachers to acquire knowledge about language differences and literacy, especially if they teach in a multilingual-multicultural society. Teacher training is an indirect way of developing literacy of linguistically different students (Barnitz, 1983).

While many of the linguistic topics of literacy development can and should be included in all courses dealing with reading, it would be effective to develop complete courses on reading development of nonnative speakers. Developing teachers' professional knowledge is crucial, for what the teacher *knows* is more important than the materials or tests (Shuy, 1981b). Teachers' knowledge of theory can be quite instrumental in guiding practices in literacy instruction (Harste et al., 1984).

Following is a brief outline of two courses (taught by the author at the University of New Orleans) as part of the mission to enhance the linguistic and cross-cultural awareness of inservice and preservice teachers. These courses can be adapted to a variety of training programs.

Teaching Reading/Language Arts in a Multicultural Society

The major broad objectives of this course involve teachers' need to understand language and cultural differences among various ethnic groups; learn how to analyze the language performances of ethnically different children; develop an awareness of current techniques for motivating and teaching reading, writing, and oral language; understand aspects of first and second language acquisition; become familiar with bilingualism and bilingual education; appreciate various trends in linguistic research in reading/language arts education; examine various teacher attitudes toward the language of culturally different children; and learn how to support or refute various positions on controversial issues in teaching English to students with various language backgrounds (Barnitz, 1983).

Units in this course include linguistic and educational topics such as:

Issues in Multicultural Language Teaching
Development of American English Dialects
Regional and Social Variation
Standard and Nonstandard English
Structure of Black English Vernacular
Inner-City Communication Styles
English Spoken by Various Ethnic Groups
The Ann Arbor Decision
Teaching Standard English to Nonstandard Speakers
Developing Writing
Reading Development for "Dialect" Speakers
Approaches to Bilingual Education
Language Interference and Language Influence
Teaching English to Speakers of Other Languages
Reading Development of Nonnative Speakers (as outlined in this monograph)

The undergraduate and graduate students enrolled in this course have opportunities to take other courses in which many of the topics are covered in more depth (e.g., courses in first-language reading development; applied linguistics in language arts; teaching English as a second language; multicultural education; linguistics).

Reading Development of Nonnative Speakers

A more detailed course for graduate reading and TESOL programs may include this graduate seminar. The participants in such a course will be led to: understand the roles of linguistic and cultural differences in learning to read English as a second language; understand the relationship of second language acquisition to literacy and biliteracy development; and apply their understanding to developing reading abilities of bilingual and non-English-speaking children and adults.

This course or seminar can be covered from both a research and an instruction perspective. General topics may include:

Cross-Cultural Perspectives on Learning to Read
The Reading Process and the Nonnative Reader
Research on First and Second Language Acquisition
The Relationship of Language to Reading Development
Cross-Cultural Schemata and Comprehension
Lexical Differences and Reading a First and Second Language
Discourse Differences and Reading a First and Second Language
Syntactic Differences and Reading a First and Second Language
Morphological Differences and Reading a First and Second Language
Phonological Differences and Reading a First and Second Language
Orthographies and Reading a First and Second Language
Bilingualism and Reading
Reading in Different Languages
Cross-National Studies in Reading and Learning to Read
Beginning Reading in a First or Second Language
Dialect Differences and Reading

Practical implications of research can be embedded throughout a course or seminar such as this. Again, this outline can be adapted according to a given university's program. Courses like these and others currently offered at various universities can be developed by linguistically trained reading educators and/or applied linguists who are informed about education and reading.

In addition to university courses, teachers have opportunities to attend inservice workshops in their school systems. Many local school districts are receptive to sponsoring applied linguistics workshops. Teachers are also encouraged to increase their professional knowledge through the many

professional organizations (see "Organizational Resources," p. 85), which provide books, monographs, journal subscriptions, and/or conferences. Thus, there are many opportunities for teachers to acquire the professional knowledge they need to develop the reading abilities of linguistically different students.

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[SUMMARY AND CONCLUSION]

This monograph has explored the linguistic and educational literature on reading development of non-native speakers. The metaphor of a jigsaw puzzle effectively illustrates the state of the art on this interdisciplinary topic. Research on theory and instructional practices is scattered across the fields of education and applied linguistics. Many pieces are put together by reading educators in collaboration with ESL specialists, linguists, and applied linguists. Likewise, many pieces are shared by researchers, while others are held by teachers. It is hoped that this monograph has helped to organize some of the pieces, just as the picture on the jigsaw puzzle box can be useful to completing the puzzle.

This monograph presented a brief sketch of the psycholinguistic reading process, which is universal across cultures. A more detailed sketch of the various levels of language was included to demonstrate the ways in which language differences and language proficiency can influence reading English as a second language. Assumed in the discussions was a strong relationship between language proficiency and reading proficiency. Throughout this discussion were included many instructional strategies for facilitating a second language reader's awareness of clues to meaning. However, in no way should the reading process be broken up into pieces of language; any instruction on part of the language-reading process must be related to the total language-reading process. Although many of the instructional strategies were originally developed

for specific populations, teachers can possibly adapt many strategies to a variety of populations.

In this discussion, research from both first and second language reading was included, illustrating further the similarities in the general nature of reading. Many meaningful teaching strategies are similar for both first and second language readers, as long as the teacher is aware of additional ways of helping students overcome any linguistic challenges that exist.

The last major section of the monograph explored some of the issues related to reading development of nonnative speakers to further our understanding of this complex field. Additional issues can also be explored, such as the topics of standardized testing of minority students' reading; legislation affecting minority students; dialect differences and reading; the development of writing as related to reading; and changes in curriculum. Yet, much more research is needed to develop our understanding of the functional, not just the structural, aspects of literacy. Such study will shed further light on the sociopsycholinguistic process of reading and instruction.

Throughout this monograph many references were given for further reading on specific aspects of the jigsaw puzzle. Teachers have a responsibility to keep informed of developments in their fields. Additional references to general works on teaching reading to nonnative speakers and a partial list of professional organizations are listed next. It is hoped that this monograph has stimulated deeper insight into teaching students from various language backgrounds.

[FOR FUPTHER READING]

This selected list of resources is intended to aid teachers in understanding the reading process and the reading development of nonnative speakers. Many of the sources reflect a variety of theoretical and practical orientations. Teachers will need to evaluate and interpret older instructional strategies in terms of current views of the reading process.

Anastasiow, N.J., Hanes, M.L., & Hanes, Michael L. (Eds.). (1982). *Language and reading strategies for poverty children*. Baltimore: University Park Press. Contains detailed discussion about language and reading development of children reared in poverty. While much of the book discusses research related to minority children who are nonstandard speakers, many strategies are useful for teaching ESL and bilingual children.

Anderson, R.C., Osborn, J., & Tierney, R.J. (Eds.). (1984). *Learning to read in American schools: Basal readers and content texts*. Hillsdale, NJ: Erlbaum. Summarizes and synthesizes current research and practice in reading and reading instruction. Five major topics are: reading comprehension instruction; stories in basal readers and trade books; appraising text difficulty; content area textbooks; and teacher's guides and workbooks.

Ching, D.C. (1976). *Reading and the bilingual child.* Newark, DE: International Reading Association. Though outdated, this bulletin serves as a guide for teachers of bilingual children. Its four chapters are: The Bilingual Child; Research on Teaching English as a Second Language and Reading; Teaching Strategies for Reading Instruction of the Bilingual Child; and Formal Reading Instruction. (ERIC Document Reproduction Service No. ED 123 582)

Duffy, G.G., Roehler, L.R., & Mason, J. (Eds.). (1984). *Comprehension instruction: Perspectives and suggestions.* New York: Longman. This volume includes a collection of readings examining the interactive process of reading comprehension and how instruction occurs in first language classrooms. The papers are categorized into five parts: Background; Constraints on Instruction; Text and Comprehension Instruction; Comprehension as Verbal Communication; and Implications for Research and Practice.

Feitelson, D. (Ed.). (1979). *Mother tongue or second language? On the teaching of reading in multilingual societies.* Newark, DE: International Reading Association. This collection of papers from the Sixth IRA World Congress on Reading (Singapore, August 1976) examines cross-national problems and solutions in multilingualism and reading. (ERIC Document Reproduction Service No. ED 166 672)

Goodman, K., & Goodman, Y.M. (1980). *Linguistics, psycholinguistics and the teaching of reading* (3rd ed.). Newark, DE: International Reading Association. This annotated bibliography is a valuable resource for understanding a wide range of linguistic topics in the reading field. (ERIC Document Reproduction Service No. ED 190 994)

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Goodman, K., Goodman, Y., & Flores, B. (1979). *Reading in the bilingual classroom: Literacy and biliteracy*. Rosslyn, VA: National Clearinghouse for Bilingual Education. This monograph provides a general overview of issues about literacy in multilingual societies in the United States and the world. Implications for reading development in bilingual programs are presented. (ERIC Document Reproduction Service No. ED 181 725)

Harste, J.C., Woodward, V.A., & Burke, C.L. (1984). *Language stories & literacy lessons*. Portsmouth, NH: Heinemann Educational Books. This volume advances a sociopsycholinguistic theory of literacy, supported by written language data from young children. Integrating theory and practice, this volume documents children's abilities to produce written discourse in various social settings.

Hudelson, S. (1981). *Learning to read in different languages* (Linguistics and Literacy Series No. 1). Washington, DC: Center for Applied Linguistics. This volume provides a collection of psycholinguistic research studies, investigating universals in the reading performances in various languages. Many studies involve bilingual readers. (ERIC Document Reproduction Service No. ED 198 744)

Kavanagh, J.F., & Venezky, R.L. (Eds.). (1980). *Orthography, reading, and dyslexia*. Baltimore: University Park Press. For an understanding of the processes of word recognition and orthographic processing, this volume provides a cross-cultural perspective. Research is discussed by a variety of authors and is grouped under several sections: Orthography and Reading: A Cross-National View; Design and Improvement of Literacy Programs; Reading Processes: Initial Stages; Reading Processes: Skilled Reading; and Dyslexia and Related Linguistic Disorders.

BARNITZ 81

Laffey, J.L., & Shuy, R. (Eds.). (1973). *Language differences: Do they interfere?* Newark, DE: International Reading Association. This edited volume contains 15 papers examining the role of language and dialect interference in reading. This is an excellent collection for understanding the complex issues involved in reading development of nonstandard English and non-English-speaking students. Though the book is outdated, many of the issues are still current. (ERIC Document Reproduction Service No. ED 076 968)

Langer, J.A., & Smith-Burke, M.T. (Eds.). (1982). *Reader meets author/bridging the gap: A psycholinguistic and sociolinguistic perspective.* Newark, DE: International Reading Association. These readings, collected from a variety of experts in reading education, present the current state of the art of cognitive and linguistic aspects of reading and implications for teaching. While this volume emphasizes first language reading, it is also useful reading for second language teachers. (ERIC Document Reproduction Service No. ED 217 395)

Mackay, R., Barkman, B., & Jordan, R.R. (Eds.). (1979). *Reading in a second language: Hypotheses, organization, and practice.* Rowley, MA: Newbury House. This volume contains 13 chapters, many of which were previously published, which describe aspects of the psycholinguistic model of reading and implications for curriculum and instruction in second language reading.

Malmquist, E. (1982). *Handbook on comparative reading: An annotated bibliography.* Newark, DE: International Reading Association. This handbook is a valuable resource for current cross-national studies on research and instruction in various cultures. (ERIC Document Reproduction Service No. ED 220 804)

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McNeil, J.D. (1984). *Reading comprehension: New directions for classroom practice*. Glenview, IL: Scott, Foresman. This book presents a wide variety of current techniques for teaching reading comprehension. Chapters include: Reading Comprehension as a Cognitive Process; Active Readers; Elaboration in Reading; Restructuring Schemata; Metacognition in Reading Comprehension; Teaching Vocabulary from an Interactive View of Reading Comprehension; Improving Comprehension of Sentences; and Comprehending Different Kinds of Discourse. Many activities can be adapted to second language reading instruction.

Pearson, P.D. (Ed.), Barr, R., Kamil, M.L., & Mosenthal, P. (Section Eds.). (1984). *Handbook on reading research*. NY: Longman. This comprehensive volume contains 25 papers representing the state of the art of reading research and instruction. Papers are grouped into three main sections: Methodological Issues; Basic Processes: The State of the Art; and Instructional Practices: The State of the Art. A useful reference book on first language reading research.

Rodrigues, R.J., & White, R.H. (1981). *Mainstreaming the non-English speaking student*. Urbana, IL: ERIC Clearinghouse on Reading and Communication Skills (National Council of Teachers of English). While this volume does not discuss reading exclusively, it is a useful guide to teachers with non-English-speaking children in the regular classroom. Contains many practical strategies for developing language arts. (ERIC Document Reproduction Service No. ED 197 382)

Shafer, R.E. (Ed.). (1979). *Applied linguistics and reading*. Newark, DE: International Reading Association. This volume contains papers treating a variety of linguistic topics in reading education. Papers deal with linguistic,

sociolinguistic, and psycholinguistic topics on research, curriculum, and instruction. (ERIC Document Reproduction Service No. ED 170 711)

Shuy, R.W. (Ed.). (1977). *Linguistic theory: What can it say about reading*. Newark, DE: International Reading Association. This edited volume contains a collection of papers treating the contributions of linguistics to the study of reading. Two papers are included under each of five topics: grammar, phonology, sociolinguistics, pragmatics, and ethnography of speaking. (ERIC Document Reproduction Service No. ED 138 925)

Taylor, I., & Taylor, M.M. (1983). *The psychology of reading*. New York: Academic Press. Contains a synthesis of the psychological processes involved in reading and learning to read. Chapters are grouped into three sections: Writing Systems, Reading Processes, and Learning to Read. The section on writing systems is most relevant to ESL reading research.

Thonis, E.W. (1970). *Teaching reading to non-English speakers*. New York: Collier Macmillan International. Although much of the research is outdated, many of the issues and strategies discussed in this book are still current. Chapters are grouped into three sections: Reading in the Vernacular; Reading in English; and Appraisal of Pupil Progress in Reading.

Thonis, E.W. (1976). *Literacy for America's Spanish speaking children*. Newark, DE: International Reading Association. This volume contains practical advice for teaching reading to Spanish speakers. Many of the instructional principles and strategies are applicable to other language populations. (ERIC Document Reproduction Service No. ED 126 425)

[ORGANIZATIONAL RESOURCES]

For information about publications, memberships and/or conferences, write to:

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University of Illinois
174 Children's Research Center
Champaign, IL 61820

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National Council of Teachers of English
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International Reading Association
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Rosslyn, VA 22209

National Council of Teachers of English
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Teachers of English to Speakers of Other Languages
202 D.C. Transit Bldg.
Georgetown University
Washington, DC 20057

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